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Drug and Cosmetic Industry

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FRANCIS CHILSON, *Production Consultant*

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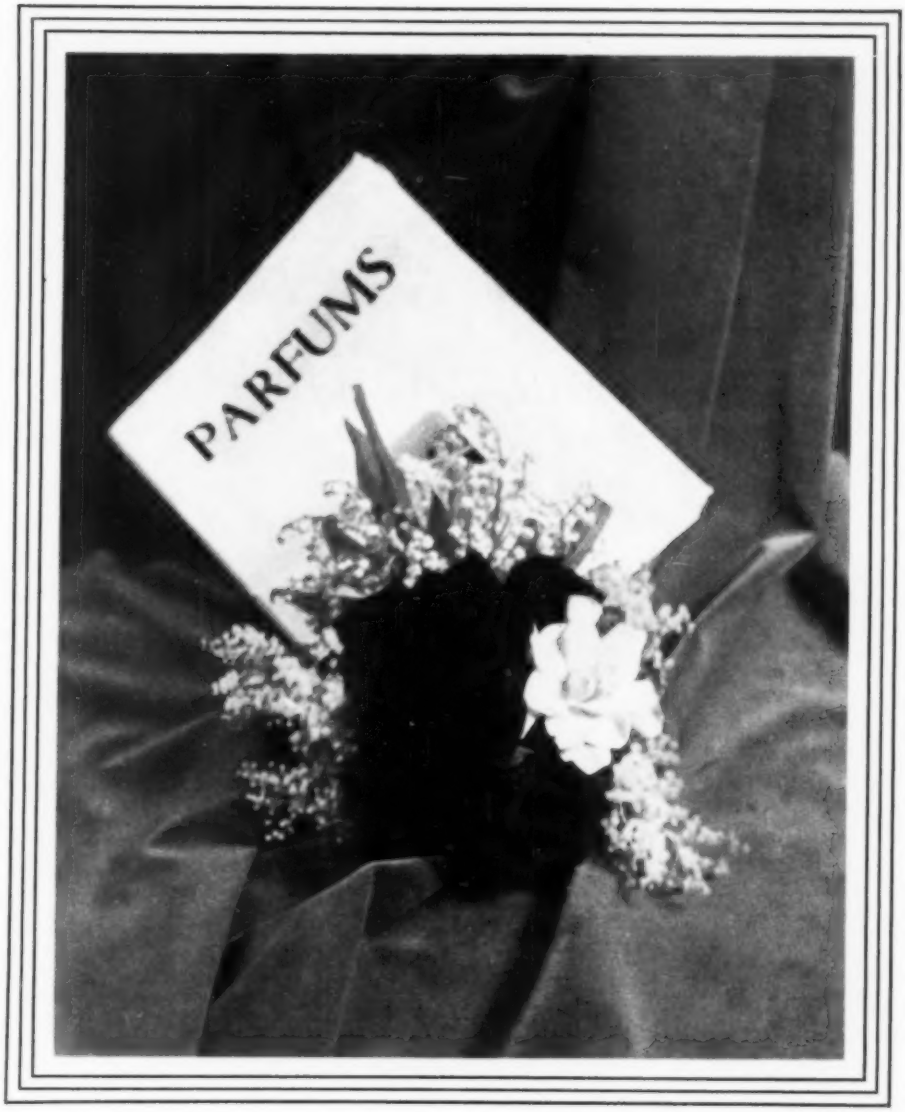

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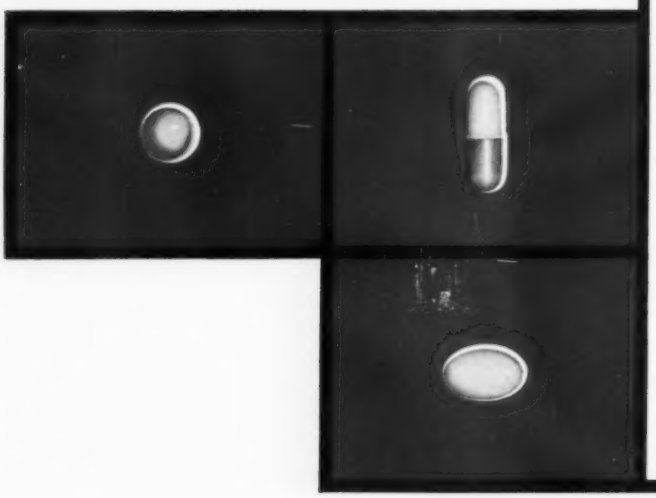

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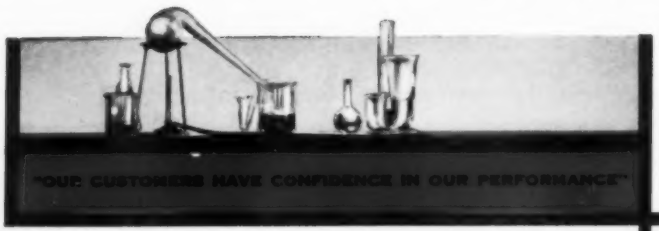

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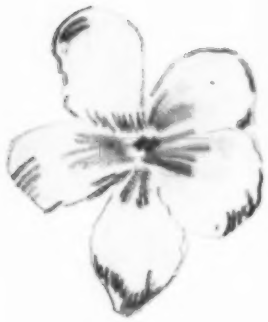

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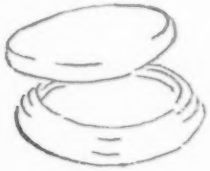

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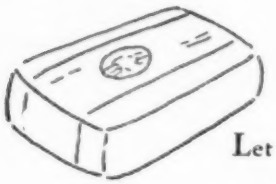

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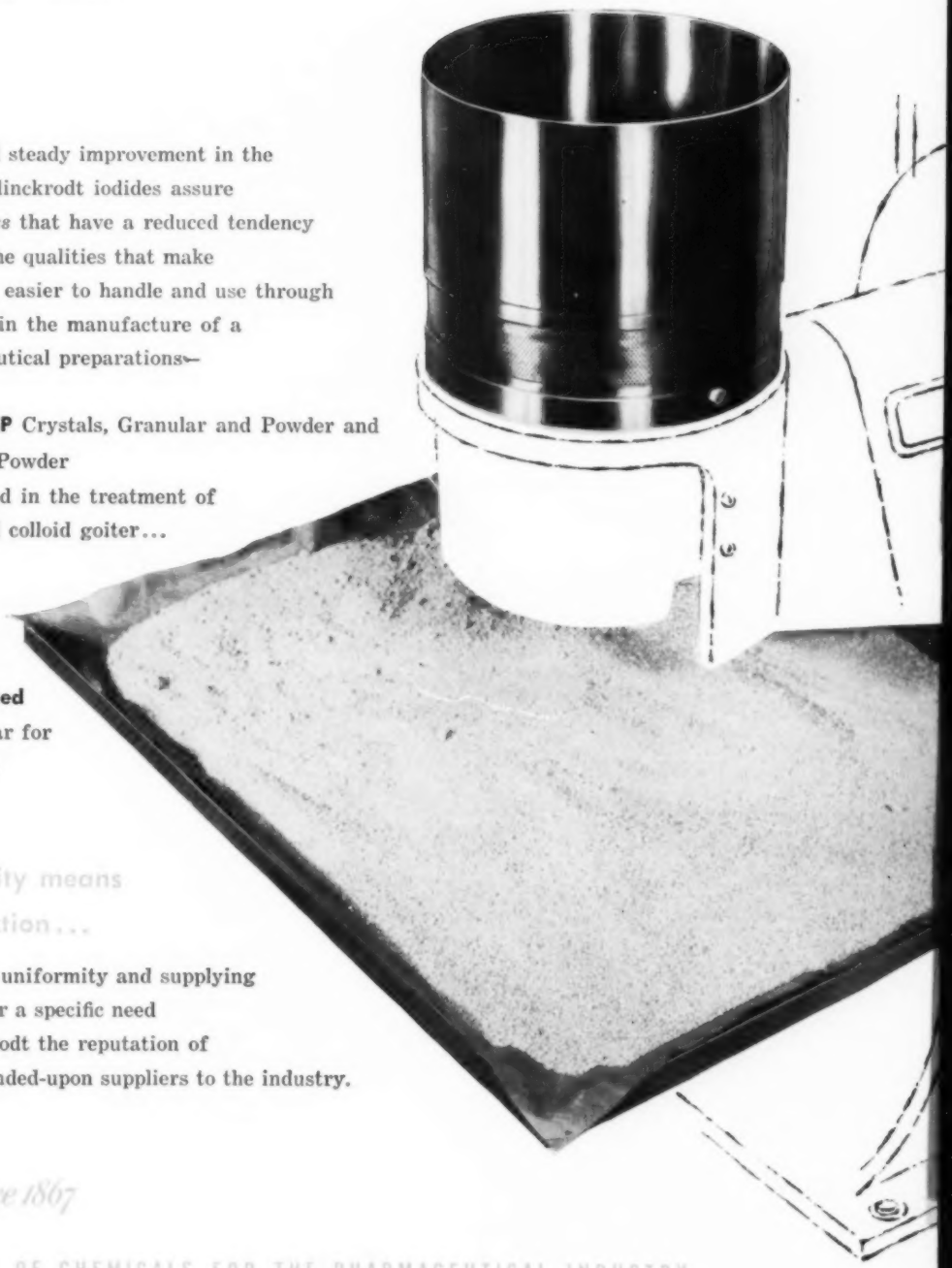

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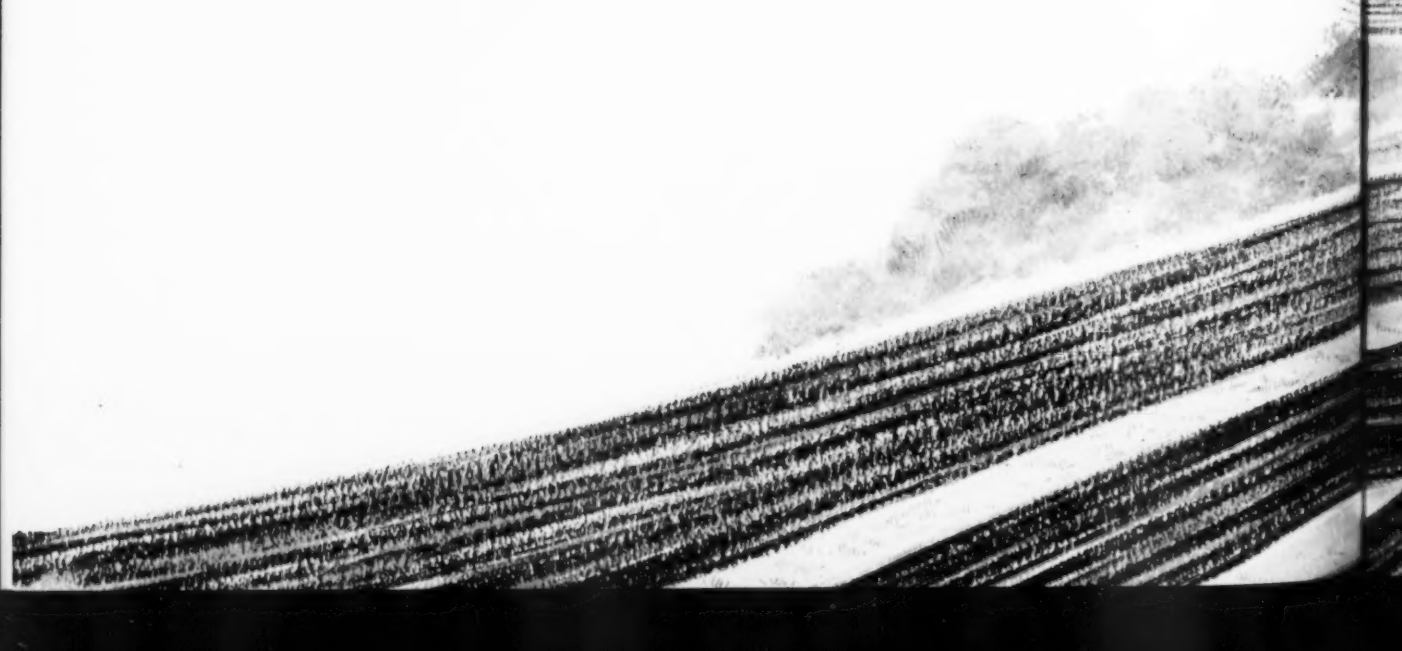

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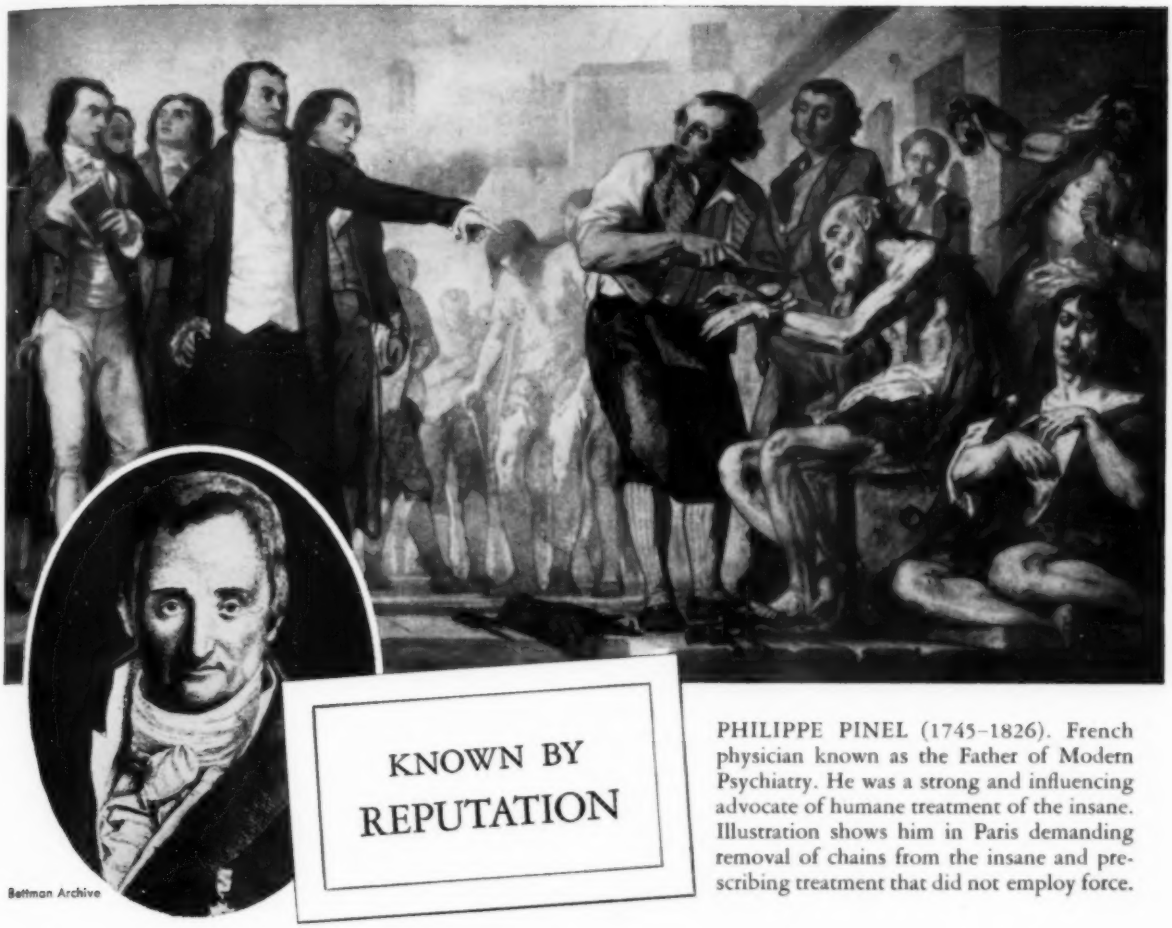

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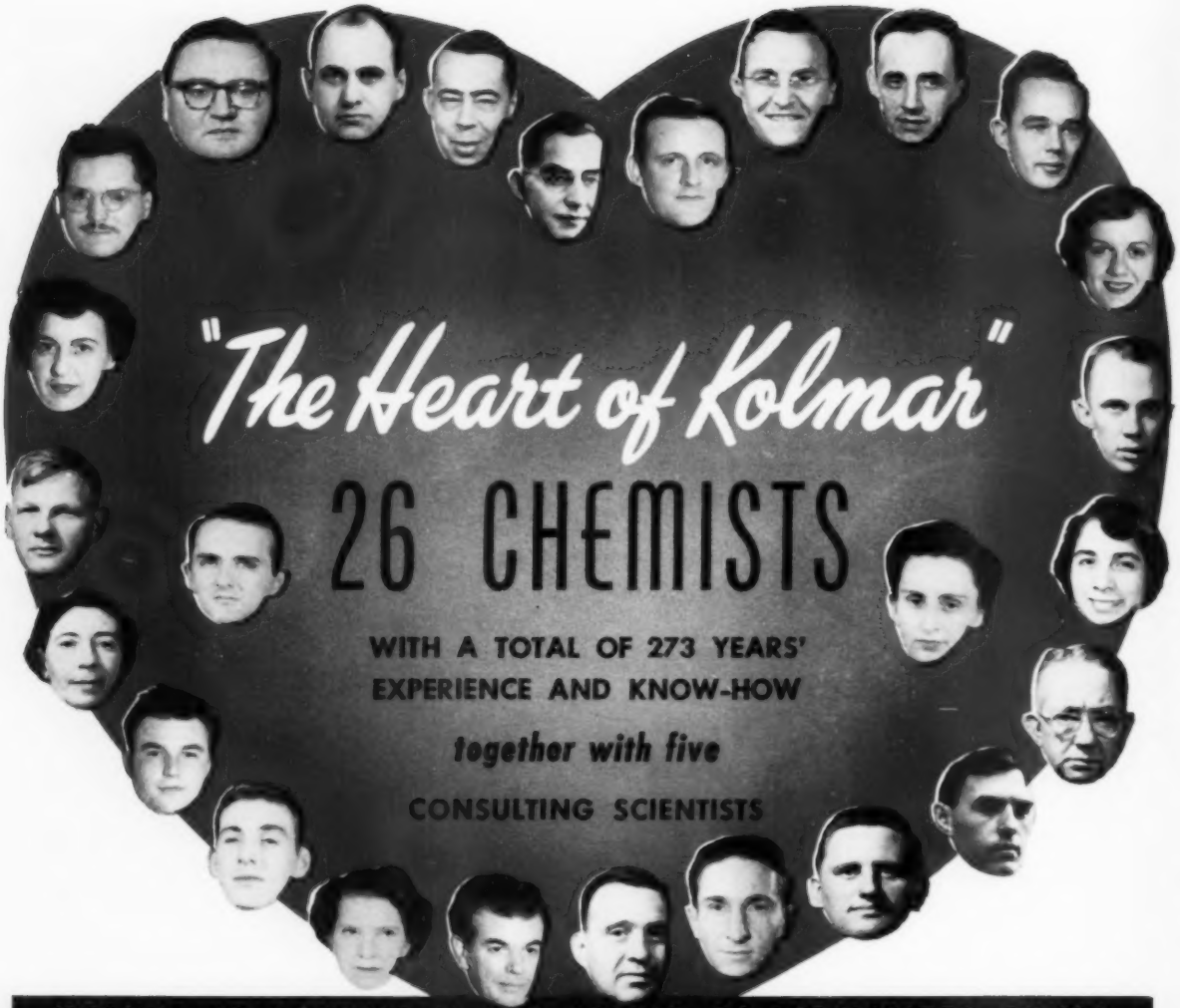
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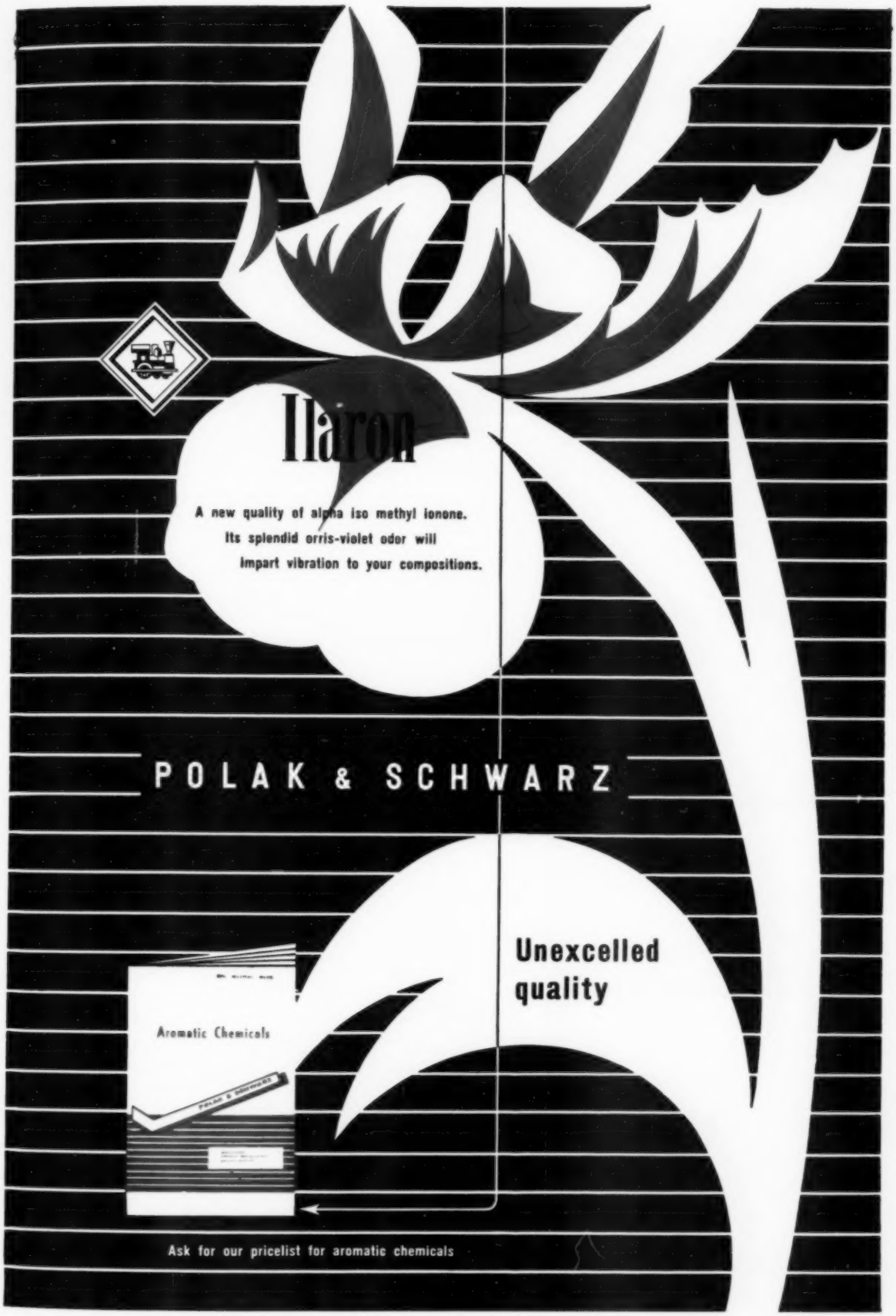

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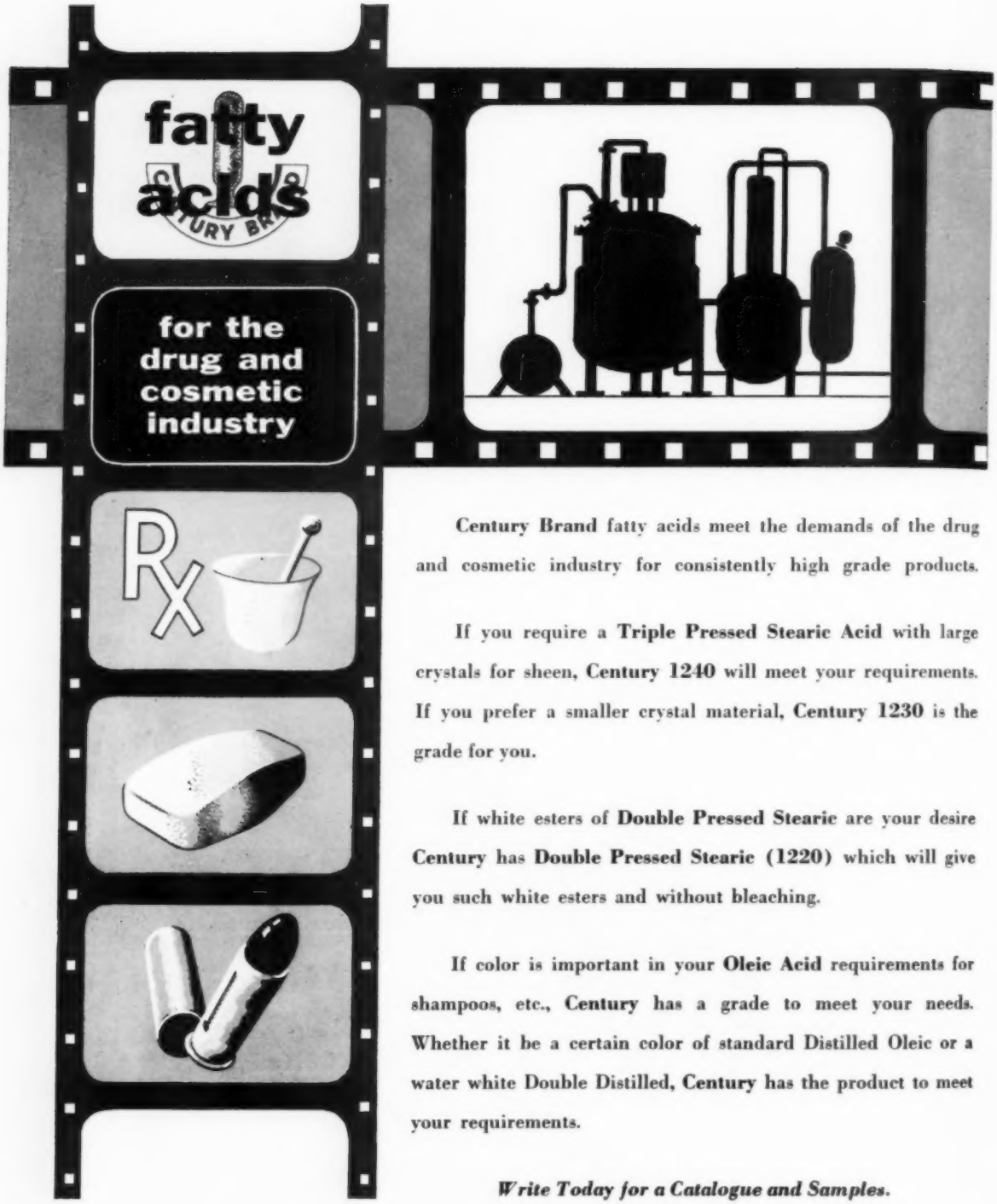

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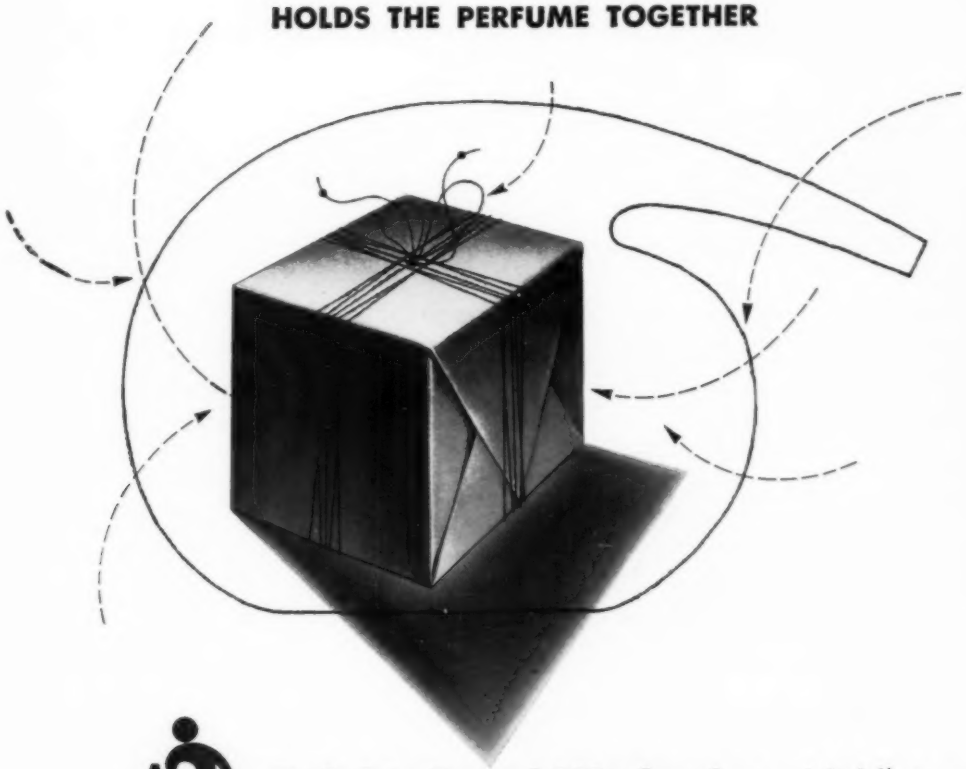

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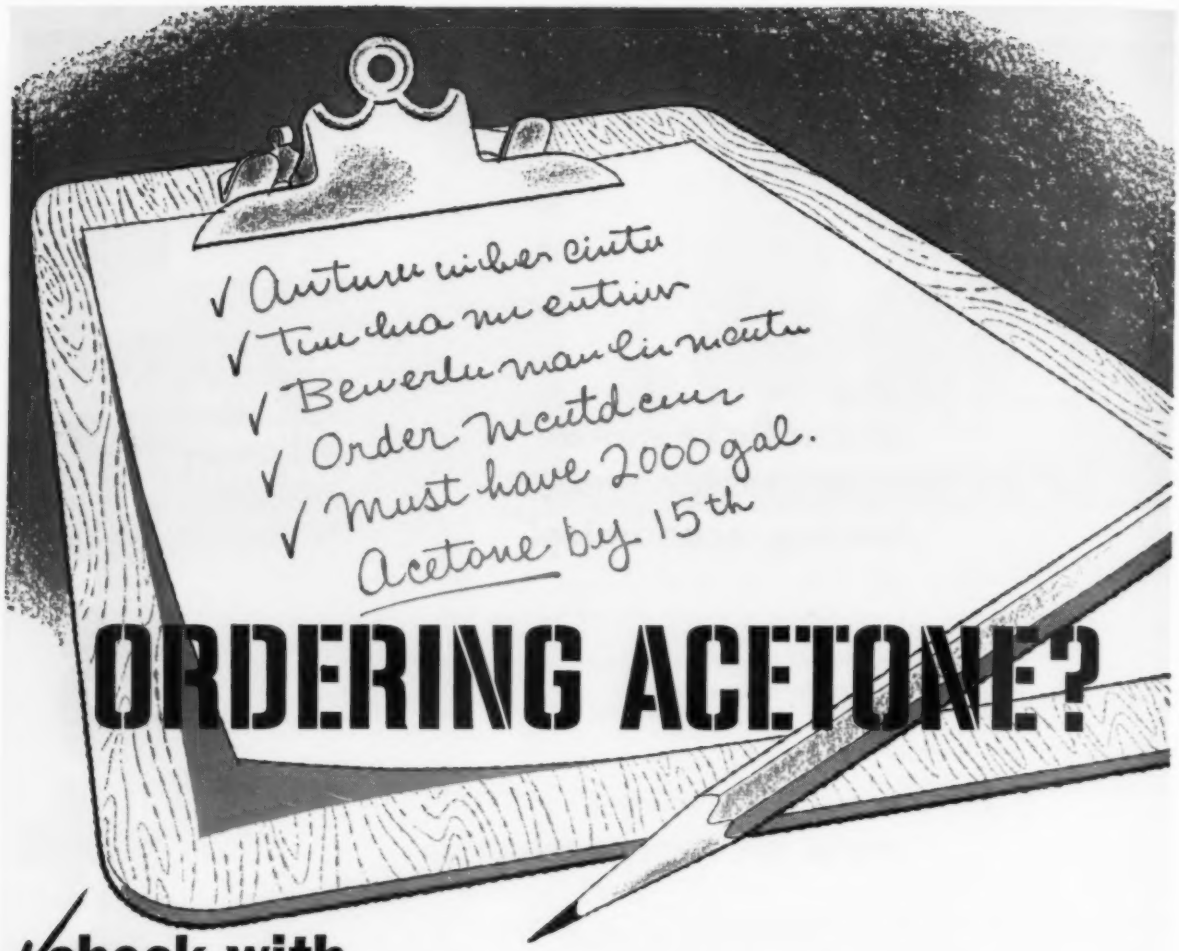

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U.S.I. CHEMICAL NEWS

May-June ★ A Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1955

U.S.I. ISOSEBACIC* ACID OFFERED FOR EVALUATION

New Synthetic Chemical Now Available in Pilot Plant Quantities

U.S.I. Isosebacic acid, a new synthetic organic chemical, is now being produced in pilot plant quantities for evaluation by research and development groups throughout the chemical industry.

This new product is a mixture of isomers of sebacic acid in the proportions indicated below and promises to be of great interest to users of dibasic acids in general. The product of more than three years of intensive research in laboratory and pilot plant, U.S.I. Isosebacic acid is produced by a novel synthetic process, starting from metallic sodium and butadiene. Both of these raw materials are readily available in large quantities and have a long history of price stability. Although U.S.I. Isosebacic acid is currently priced at 45 cents per pound for development quantities, it is expected that large scale production in a commercial plant will make substantial price reductions possible in the future.

Many promising uses

One of the most promising uses for U.S.I. Isosebacic acid is the manufacture of high quality plasticizers for vinyl resins, particularly where low temperature flexibility is required. U.S.I. Isosebacic acid esters of isooctyl alcohol or 2-ethylhexanol have been found to have superior properties in this

MORE

U.S.I. Assumes New Responsibility

National Distillers Products Corporation recently announced that all chemical operations of the company will be conducted by the U. S. Industrial Chemicals Co. Division. Previously U. S. Industrial Chemicals Co. was part of the Chemical Division of National Distillers. The two have now been consolidated under the U.S.I. name.

The organization and name of National Petro-Chemicals Corporation, 60% owned subsidiary, will remain unchanged. "Petro" will continue to be managed by National Distillers, now through U.S.I.

Warts Successfully Treated with Oral Methionine

Recent work in the United States has confirmed the fact that methionine can be used to treat warts. The American work confirms previous findings to the same effect made in France. Patients with warts were given methionine orally at the rate of 1 to 2 grams per day. The warts usually disappeared within ten days after treatment began. This effect of methionine was discovered accidentally when a patient with warts was given methionine for hepatitis. During the course of treatment, the warts disappeared.

Anhydrous Ammonia Reported Useful as a Fungicide

Recently completed research indicates that in addition to its primary use as a fertilizer, anhydrous ammonia also acts as a fungicidal agent in the soil. The researchers found that only 0.6% of the nematodes and 4.9% of the fungi survived when 608 ppm of nitrogen were present in the soil. This level of ammonical nitrogen is reported to occur regularly in the retention zone when anhydrous ammonia is applied to fields.

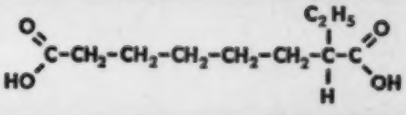
Although the numbers of nematodes and fungi were reduced by levels of ammonical nitrogen as low as 136 ppm, the largest reduction in both nematodes and fungi occurred when levels were above 365 ppm.

New Polyethylene Booklet

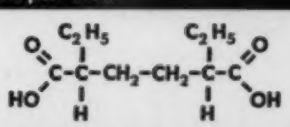
U.S.I. has just issued a booklet on PETROTHENE polyethylene resins as raw materials for the plastics processor. PETROTHENE is offered in pellet form in both high quality and general purpose resin types. The booklet describes the product, its properties, production, uses, methods of processing (extrusion, injection and compression molding) and fabricating. U.S.I. services to the plastics processor are outlined. Copies on request.

U. S. I. ISOSEBACIC* Acid
a mixture of C_{10} Dicarboxylic Acids

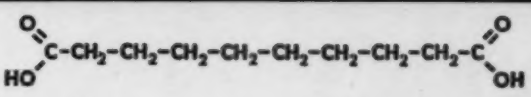
α ethyl suberic acid 72 - 80%



α,α' diethyl adipic acid 12 - 18%



sebacic acid 6 - 10%



*TRADE MARK

May-June ★ **U.S.I. CHEMICAL NEWS** ★ 1955

CONTINUED U.S.I. Isosebacic Acid

respect. These same esters also show great promise as base materials for the synthetic lubricating oils now required by jet aircraft engines. Especially important for such a national defense application is the fact that U.S.I. Isosebacic acid will be produced entirely from domestic raw materials which are in ample supply.

For polymeric plasticizers

Polymeric plasticizers, made from glycols and long chain dibasic acids, are another promising application for U.S.I. Isosebacic acid. Because of their superior low volatility and non-migration properties, polymeric plasticizers have become increasingly popular with vinyl resin converters and compounders in recent years. The availability of U.S.I. Isosebacic acid will make possible development of new and cheaper polymeric plasticizers.

Seen useful for polyesters

U.S.I. Isosebacic acid will also be of interest to producers of polyesters for coupling with diisocyanates in the production of polyurethane foams, elastomers, adhesives and surface coatings. Other polyesters, made from U.S.I. Isosebacic acid and glycols also show promise as raw materials in the production of resins for reinforced plastics.

There are many other applications where U.S.I. Isosebacic acid may be used. Samples are available for evaluation on laboratory or pilot plant scale. For samples, data sheets and technical assistance, write to the Editor, U.S.I. Chemical News.

Urethan a Synergist In Retarding Cancer

Recent experimental evidence indicates that urethan combined with nitrogen mustard compounds or triethylene melamine may inhibit cancerous growths which do not respond to these materials used alone. Such findings have been observed in animals with experimental tumors, and there are indications that there may be regressions of some human tumors from such action. It is emphasized, however, that the remissions so induced are of a temporary nature. Additional studies are being conducted further to evaluate this treatment and its side reactions.

Metallic Sodium Purifies Petroleum . . . Product Recovery High

It has been established that the treatment of petroleum fractions with metallic sodium has several beneficial effects. All types of sulfur compounds are removed, particularly thiophenic sulfur, difficult to eliminate with other treating agents.

In addition to desulfurizing, sodium improves odor, color, and storage stability, and reduces "dissolved" gum-formers. The sodium treating process has the advantage of producing a high-quality product with little loss of volume.

Sodium in one of the finely divided forms developed by U.S.I. — sodium dispersions in inert hydrocarbon media, or sodium coated on inert solid particles — are especially suitable for this application. Both of these procedures are easy to use, and little additional equipment is needed. Specialty solvent and oil manufacturers find this treatment particularly attractive.

New Film Shows Advantages of Ohio as Plant Site

The Cleveland Electric Illuminating Company has produced a 28-minute sound film in color called "Land of Promise," which outlines the recent rapid growth of industry in Northeast Ohio. The film indicates that chemical enterprises in particular have been drawn by the nearness of plentiful power, water, labor, land, materials and markets. And the finalizing of plans for the St. Lawrence Seaway now holds forth the promise of direct access to *world* markets and materials.

Among the plants which located early in the area and attracted other producing units to it can be numbered the U.S.I. sodium plant at Ashtabula. Since its startup in 1950, units have been constructed by other companies at Ashtabula which use U.S.I. metallic sodium and chlorine.

The film can be obtained for showings from Cleveland Electric Illuminating Company at 83 Public Square, Cleveland.

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U.S.I.

For testing interior temperatures of products during processing, new temperature indicators, consisting of heat-sensitive papers sealed in glass tubes, are available. At a predetermined point, the paper changes from white to black irreversibly, leaving a permanent record. **(No. 1090)**

A new silicone mold release emulsion for rubber, plastics and metal is more stable to creaming or separation than any comparable silicone developed thus far. **(No. 1091)**

Polyethylene squeeze bottles now feed a new type ink to recording instrument pens. A plastic capillary-tube spout on the bottle pinpoints a precise quantity of ink onto the pen without dripping. **(No. 1092)**

A rubber compound for sealing high vacuum equipment, recently developed, has good resistance to out-gassing at high temperatures, and long service life. It is a formula of Buna N Polymer, moldable in special and standard shapes. **(No. 1093)**

Alcohol-saturated cotton sponges may now replace the bottle of alcohol and the box of cotton in the doctor's bag. The sponges come in jars of 30, 150 and 250; also contain other disinfectants. **(No. 1094)**

A rust remover, shipped in powdered form, is proving unusually effective for ferrous and nonferrous metals. Mixed with water to any desired strength, it is fast-acting, nontoxic, nonflammable, leaves a thin, rust-resistant coat. **(No. 1095)**

A new plastic foam can be produced in lighter densities than other foams, making it suitable for lightweight product uses. It has high tensile, tear and compression qualities excellent for cushioning heavy loads. **(No. 1096)**

Bursting strength of polyethylene pipe tends to increase with higher loadings of carbon black, according to preliminary tests. If the findings prove valid, the plastic pipe might substitute for steel in many applications. **(No. 1097)**

To protect feet against temperature extremes, a new safety shoe has been developed. The upper is padded with foamed vinyl containing countless "sealed-air" bubbles. The vinyl does not absorb moisture, oil or odors. **(No. 1098)**

A new type laboratory rod support is now offered which attaches to any vacant space along a lattice rod without disturbing apparatus already set up. From the clamp another rod can be extended to support additional apparatus. **(No. 1099)**

PRODUCTS OF U.S.I.

ALCOHOLS
Butanol (Normal-Butyl Alcohol)
Fusel Oil — Refined
Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof U. S. P., Absolute—200 Proof
Filmex*—special proprietary solvent
Solox*—proprietary solvent—regular and anhydrous

ETHERS
Ethyl Ether, U. S. P.
Ethyl Ether, Absolute—A.C.S.

ACETONE—A.C.S.

ANSOLS
Ansol* M
Ansol* PR

ACETIC ESTERS
Butyl Acetate
Ethyl Acetate—all grades
Normal-Propyl Acetate

OXALIC ESTERS
Diethyl Oxalate

OTHER ESTERS
Diatol*
Diethyl Carbonate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-chloroanilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloroanilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

FEED PRODUCTS
Calcium Pantothenate (Feed Grade)
Choline Chloride Products
Curbay B-G* 80
DL-Methionine (Feed Grade)
Niacin, U.S.P.
Riboflavin Concentrates
Special Liquid Curbay*
U.S.I. Vitamin B_{12} and Antibiotic Feed Supplements
Vacatone* 40
Vitamin A, D_3, and K_3 Products

PLASTICS
Petrothene** Polyethylene Resins

OTHER PRODUCTS
Anhydrous Ammonia
Caustic Soda
Ethylene
Liquid Chlorine
Metallic Sodium
DL-Methionine (Pharm.)
N-Acetyl DL-Methionine
Nitrogen Solutions
Propionic Acid
Sulfuric Acid
Urethan, U.S.P.

*Reg. U.S. Pat. Off.
**Reg. Pend.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers Products Corporation

99 PARK AVENUE, NEW YORK 16, N. Y. BRANCHES IN ALL PRINCIPAL CITIES

Bouquet*
1953
TIME and PATIENCE are combined with uncompromising Florasynth skill to bring you this modern interpretation of fragrance perfection . . . with its highly desired influence in popular product appeal . . .
Florasynth LABORATORIES, INC.
CHICAGO 6 • NEW YORK 61 • LOS ANGELES 21
CINCINNATI 2 DETROIT · DALLAS · MEMPHIS · NEW ORLEANS 12
ST. LOUIS 2 SAN FRANCISCO 7 · SAN BERNARDINO
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PRODUCTOS Y LABORATORIOS FLORASYNTH, S.A. MEXICO 11, D.F.

THINGS TO COME...WITH

Glycerine

BLOOD FOR TRANSFUSIONS . . . banked for a year

Imagine banking more blood in a year than has been shed by all American fighting men since Braddock's defeat.

That's how many red blood cells a new *Glycerine preservation process* promises to make available—from today's normal supply of donated blood.

Until now, it's been impossible to prevent red cells from spoiling after three or four weeks' storage.

But by suspending cells in Glycerine at subzero temperatures, scientists have successfully preserved them for over six months.

And banking for as long as one to three years—perhaps more—is a practical possibility.

The unique balance of properties that won such wide acceptance for Glycerine in the past continues to open *new* doors to chemical progress. In paints, foods, pharmaceuticals, packaging . . . for tomorrow's surge of new specialties . . . in formulations and reactions yet unknown. Nothing takes the place of Glycerine.

This balanced group of properties keeps Glycerine's usefulness growing

HYGROSCOPICITY • STABILITY • SOLVENT POWER • VISCOSITY • NONVOLATILITY • NONTOXICITY • TASTE • MW/HYDROXYL RATIO • HUMECTANT • CARRIER • SOLVENT • LUBRICANT • SOFTENER • EMOLLIENT • ANTI-FREEZE • ALKYD BASE •

☑ CHECK AND SEND FOR TECHNICAL DATA

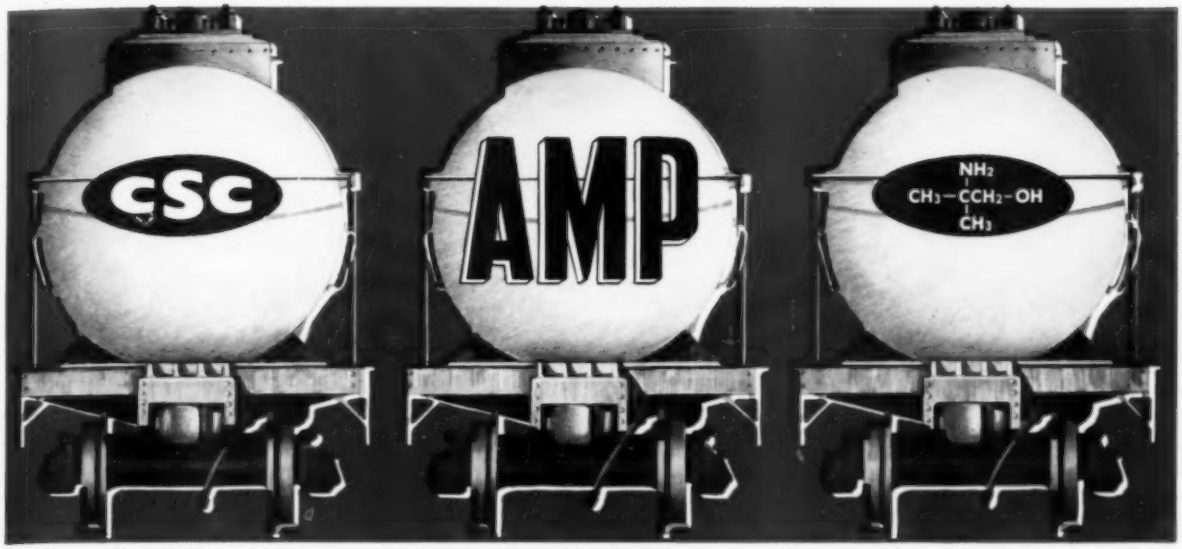
☐ 20-page booklet on Glycerine for product conditioning

☐ 12-page booklet on Glycerine standards and specifications

☐ 16-page booklet on Glycerine properties and applications

For your free copy of any or all of these booklets write: GLYCERINE PRODUCERS' ASSOCIATION • 295 Madison Ave., New York 17, N. Y.

MORE AND MORE, INDUSTRY CALLS FOR



2-AMINO-2-METHYL-1-PROPANOL

as a highly effective emulsifier and chemical intermediate

AMP – another of the versatile CSC Nitroparaffin derivatives, is considerably more efficient than many commonly used emulsifying agents. Less AMP is required to give equal emulsion performance.

AMP oleate is a powerful emulsifying agent for water-wax emulsions. Its effectiveness in lower concentrations than are required for comparable results with other widely used amine soaps makes AMP oleate an economical and desirable emulsifying agent. At relatively low concentrations of AMP oleate, the water-wax emulsions are stable and unchanged after repeated freeze-thaw cycles and heat stability tests. High gloss and excellent leveling are characteristic properties of AMP oleate floor wax emulsions when proper concentrations of AMP and oleic acid are used.

The higher fatty acid soaps of AMP are powerful emulsifying agents for use in such materials as cleaners, polishes, dressings, self-polishing floor waxes and emulsion-type paints. AMP's moderately high boiling point minimizes evaporation loss and objectionable fumes during manufacture of emulsions – without detracting from desirable water resistance and durability of film. With its advantage of low combining weight and its ability to emulsify a wide range of materials, AMP may solve your emulsifying problem.

AS A CHEMICAL INTERMEDIATE

Readily undergoes a wide variety of reactions. AMP forms substituted amides with esters, anhydrides and acyl halides. Also reacts with many other compounds including alkyl halides, aldehydes, ketones, and carbon disulfide. AMP can be used in the synthesis of efficient surface-active agents and detergents, and vulcanization accelerators for rubber.

Also suggested for synthesis of dyestuffs, photographic developers, and pharmaceuticals. Investigate the many ways in which AMP can help improve your products or processes.

PHYSICAL PROPERTIES	
Molecular Weight	89.14
Boiling Point, °C	165760mm
Melting Point, °C	30-31
Specific Gravity at 20/20°C	0.934
pH of 0.1M Aqueous Solution at 20°C	11.3
Solubility in Water at 20°C, g/100 ml	Completely Miscible

SPECIFICATIONS	
Neutral Equiv.	88.5-91.0
Color, APHA, max.	20
Water, by wt., max.	0.8%
Distill. Range	156°C-177°C
Below 161°C max.	10%
Below 168°C max.	5%
Odor	Characteristic
Non-volatile matter by weight, max.	0.005%

OTHER AMINOHYDROXY COMPOUNDS

AB (2-Amino-1-butanol) $CH_3CH_2CHNH_2CH_2OH$

AMPD (2-Amino-2-methyl-1, 3-propanediol) $CH_2OHC(CH_3)NH_2CH_2OH$

AEPD (2-Amino-2-ethyl-1, 3-propanediol) $CH_2OHC(C_2H_5)NH_2CH_2OH$

TRIS AMINO (Tris[hydroxymethyl] aminomethane) $(CH_2OH)_3CNH_2$

Write for samples and Technical Data Sheet No. 18.

COMMERCIAL SOLVENTS CORPORATION

260 MADISON AVENUE NEW YORK 16, N. Y.

CSC INDUSTRIAL CHEMICALS

perfume compounds for COLOGNES

• modern
• classic
• floral
• French

by

write for our cologne folder

schimmel

601 West 26th Street, New York 1, N. Y.

S. S. UNITED STATES

Quality Makes the Difference

Quality makes the difference . . . where a "stripped" coconut fatty acid is required, be sure to look at GROCO 26 — STRIPPED COCONUT FATTY ACIDS with the major percentages of caprylic and capric acids removed. For quality products at a lower price, don't overlook GROCO 24 — REGULAR COCONUT FATTY ACIDS. Both grades are known for excellent THERMAL STABILITY and uniform specifications and composition. Try a sample and see.

For full information, send for our new catalog "Fatty Acids in Modern Industry".

	GROCO 26 Special	GROCO 24 Regular
Titre	26° — 29°C.	22° — 25°C.
Color 5¼" Lovibond Red	2.5 max.	2.5 max.
Color 5¼" Lovibond Yellow	15 max.	15 max.
Color Gardner 1933	2 — 4	2 — 4
Unsaponifiable	0.25%— 0.50%	0.25%— 0.50%
Saponification Value	251 — 258	261 — 270
Acid Value	250 — 257	260 — 269
Iodine Value (WIJS)	7 — 15	7 — 13

A GROSS & COMPANY

MANUFACTURERS SINCE 1837

295 MADISON AVENUE, NEW YORK 17, N. Y. • FACTORY: NEWARK, N. J. • DISTRIBUTORS IN PRINCIPAL CITIES

HOW CYANAMID ADVERTISING / HELPS CYANAMID CUSTOMERS

The advertisements shown here are a few of the latest in a highly successful campaign. It has been successful because it has made doctors aware of the importance of Folic Acid. The proof can be seen on the pharmacists' shelves: practically all leading manufacturers include Folic Acid in their multivitamin products, and doctors regularly prescribe them.

Because it builds doctor-acceptance for Folic Acid and those products that contain it, this advertising is of direct value to Cyanamid customers who include Folic Acid in their preparations.

AMERICAN *Cyanamid* COMPANY
FINE CHEMICALS DIVISION
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

POLYVINYLPYRROLIDONE (PVP)

ACCEPTED — PREFERRED

for plus values
in cosmetic
formulations

PVP
for hair preparations

film former—substantive to hair
hygroscopic—water soluble
Forms smooth, lustrous, flexible, non-flaking films—Can be removed easily by washing—Accentuates natural color—Hygroscopicity gives better hair management—Allows hair to be reset with a wet comb—Has gained cosmetic industry acceptance for aerosol hair sprays, men's hair grooming agents, wave-set lotions, cream rinses, hair dyes.

PVP
for skin preparations

detoxifier for toxins and irritants
stabilizer—thickener
Combines with a wide variety of chemicals to enhance activity or reduce toxicity—Leaves a protective film on face to make skin feel smoother—Gives emolliency to solutions—Minimizes the stripping of natural oils from skin—Stabilizes formulations and lathers—Is now being marketed in shaving creams, skin cleansing creams, after shave lotions, deodorants, nail polish removers.

PVP
for cleansing products

prevents soil redeposition
binder for organic compounds
high physiological compatibility
Acts as foam stabilizer, prevents soil redeposition and improves hair management in shampoos—Is a foam builder and protective colloid in tooth pastes—Gives emollient action and improved detergent action in waterless cleansers.

For further information on PVP in cosmetics and for price schedules and samples please write to:

GENERAL ANILINE & FILM CORPORATION
COMMERCIAL DEVELOPMENT DEPARTMENT
435 HUDSON STREET NEW YORK 14, N. Y.

gaf

From Research to Reality

By Far . . .

the largest number of Perfume and Fragrance advertisers ever to use one magazine are now telling their story in BEAUTY FASHION. Read BEAUTY FASHION each issue for the fascinating story these perfume advertisements tell.

See in BEAUTY FASHION:

Angelique, Inc.
Parfums Anjou
Elizabeth Arden Sales Corp.
Blanchard, Inc.
Hattie Carnegie
Caron Corporation
Carven Parfums
Ceil Chapman Parfums
Chanel, Inc.
Parfums Charbert, Inc.
Charles of the Ritz (Directoire)
Mary Chess
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BEAUTY FASHION THE MAGAZINE OF PERSONAL SELLING

101 West 31st Street, New York 1, N.Y.

Nothing Compares with

Astrotone® *Br*

A macr°-cyclic single chemical similar to the musk-like materials of natural origin.

ASTROTONE BR recalls the odor of musk tonquin, but without the heavy, depressing animal by-notes which are present in material musk.

ASTROTONE BR has the following properties:
Boiling Point: 125°C. at 1mm.
Freezing Range: −5.0° to −7.0°C.
Specific Gravity: 1.044 to 1.0455 at 20°C.

At room temperature, ASTROTONE BR is a colorless to light yellow viscous oil; below room temperature, clear ice-like crystals. It is soluble in all proportions in alcohol and other perfume materials.

Rigid manufacturing controls insure not only chemical purity but uniformity of odor. In the more than 15 years during which ASTROTONE BR has been on the market, the number of perfumers using it has increased considerably.

We invite your inquiries.

Rhodia INC.
230 Park Avenue, New York 17, N. Y.
PLANT: PATERSON, N. J.

IN CANADA: Naugatuck Chemicals Div., Dominion Rubber Co., Ltd.
Montreal Toronto Winnipeg

DOW PROPYLENE GLYCOL, U. S. P.

THE DEPENDABLE SOLVENT FOR COSMETICS

. . . also offers valuable preservative, humectant and emollient properties to aid in improving your drug and cosmetic properties

Dow propylene glycol, U.S.P., works the year 'round for formulators of improved drug and cosmetic products of every type.

Summer's sun brings a big demand for suntan preparations with a soothing effect and minimum separation of sun-screen ingredients—your product has both with propylene glycol.

Cold weather and winter winds jump the sales of lotions to soothe and soften the skin without residual stickiness—again a direct result of propylene glycol's emollient action.

Year 'round sales of liquid shampoo are promoted when propylene glycol is used as a foam stabilizer and mutual solvent for a more pleasing product.

Quality-controlled Dow propylene glycol, U.S.P., always in dependable supply, is promptly shipped from strategically located terminals. Evaluation in your own lab is your next step toward product improvement and economy. For a free sample and property information, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. OC 812G-1

you can depend on DOW CHEMICALS DOW

INOSITOL

NYQ

Stocks of the important lipotropic agent INOSITOL are now available from Chicago, Newark and Los Angeles warehouses of N.Y.Q.

Experimental evidence emphasizes that INOSITOL acts as a synergist when used with Choline. With the present great interest in geriatric medication, and in particular atherosclerosis, much interest is being shown in INOSITOL for this usage.

Stocks immediately available!

For Lipotropic Agents, Call NYQ

INOSITOL METHIONINE
BETAINE HYDROCHLORIDE
CHOLINE CHLORIDE CHOLINE BITARTRATE
CHOLINE DIHYDROGEN CITRATE
TRICHOLINE CITRATE (65%) SOLUTION

THE FULL LINE
FINE CHEMICAL HOUSE

NYQ®

The NEW YORK QUININE & CHEMICAL WORKS, Inc.

50 CHURCH STREET, NEW YORK 8, N. Y.
729 WEST DIVISION STREET, CHICAGO 10, ILL.

spotlight on

oxidation resistance

in stearic acid

how Emersol 120 decreased yellowing and rancidity of textile softeners

If rancidity and yellowing are problems in your product, then you may profit from this actual experience:

Case History No. 16-57 . . . After exhaustive tests of double-pressed stearic acids, this well known manufacturer of cotton softeners found that Emersol 120 Standard proved to be the best buy today. His reasons were: 1) the excellent color stability of Emersol 120 decreased the discoloration that normally occurred during processing . . . producing a lighter-colored softener; 2) fabrics treated with softeners made from 120 kept their whiteness and subsequent fresher appearance considerably longer; and 3) the stability of Emersol 120 minimized tendencies of the softener to become rancid during the storage of finished cottons prior to sale and use . . . and all at no extra cost.

Your use of Emersol 120 Standard with its outstanding color stability, resistance to rancidity, and oxidation stability, will make your product more appealing, stay appealing longer, and easier to sell. And since it costs no more than competitive double-pressed grades, all these extras cost you nothing. So . . . next time buy Emersol 120 Standard.

Emery

Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

New York; Philadelphia; Lowell, Mass.; Chicago; San Francisco; Cleveland; Ecclestone Chemical Co., Detroit. Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

Export: 2205 Carew Tower, Cincinnati 2, Ohio

"The Boss wants a Stress Lipstick with vitamins in it to keep the boy-friend strong."

Keeping Posted

Lesson from Salk Vaccine

If the difficulties experienced with the Salk vaccine indicate anything, they indicate clearly that the introduction of a new remedial agent is no picnic no matter who stands back of it. Furthermore, it points up sharply the terrific risks that manufacturers take in the introduction of a new product. Here was a product that had everything in its favor. It had been worked on for at least two years before its use was decided upon. Then it was turned over to manufacturing firms with outstanding reputations over many years as producers of biological preparations. Further than this, the product was tried on a massive scale through the entire country with the complete cooperation of the medical profession, the U. S. Public Health Service, local boards of health, local school authorities, and everyone else whose cooperation was necessary or desirable. And when this extensive field trail was reported on, the product was found to be satisfactory, being 60 to 90 per cent effective.

Following the report of the nation-wide trial, the product was to be released for use by doctors and everyone who wanted the product could have it. However, there was the matter of a shortage of supplies which was bound to exist for a year or so before vaccine sufficient to inoculate all who desired immunization could be produced. Because of this pending shortage, and because the National Foundation for Infantile Paralysis, which sponsored the nation-wide trial, was to donate large amounts of the vaccine to be injected into school children, the product was largely in the nature of a public health undertaking.

But despite the fact that the product is being made by experienced biological manufacturers, despite the fact that its release for use is supervised by the U. S. Public Health Service under the National Institutes of Health, despite the fact that the cooperation of all who took part in the field trial are still cooperating, and despite the fact that the report of the field trial showed the product to be only 60 to 90 per cent effective, the original faith placed in the product has in large measure disappeared.

Before the report of the field trial was released, the rumor was that the product had proved to be 100 per cent effective. When the report was released, the public and everyone else seemed to be completely sold on the idea that polio was through from that day on. No one seemed to pay any attention to the fact that the product was not 100 per cent effective, or to the fact that a large number of polio cases might occur before or after the vaccine was injected. Because of the uncertainty surrounding the vaccine when polio cases started being reported in children who had received injections of the vaccine, great uncertainty spread through practically everyone connected with the product, although many shouted their continued faith in the product quite loudly. As we write this, the uncertainty is apparent in the average member of the medical profession, and certainly in a very large number of parents of children for whom these same parents could not wait to get the vaccine only a month or more ago.

Picture a pharmaceutical manufacturer in a similar spot on a product which he introduced after long, extensive and expensive investigation and clinical trials. It is only a few years ago that faith in Parke, Davis' Chloromycetin was at a very low ebb as this product was damned by many members of the medical profession. Here was a product that reached a very high peak in sales and in use by the medical profession of this country with a large new plant only recently constructed for its production. And while apparently proven clinically efficacious and as safe as any of the antibiotics available, it was suddenly discarded almost completely. Fortunately, a careful investigation was made to determine if the product should be removed from the market or whether it could be continued to be used under certain precautions. The product continued on the market and finds wide use as is indicated by the fact that Parke, Davis sells it at a manufacturer's sales volume of not less than $25 million.

But the Salk vaccine situation clearly indicates that nothing is certain in the development of a new product for control of disease. It also indicates quite clearly

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that practically no drug or preventive is 100 per cent effective. And when the question of pre-injection disease manifesting itself some time after the preventive injection is given arises, it is just too much for the public—and for a large number of doctors and others who should know better—to grasp. In the case of the Salk vaccine, there will be no relaxing until the product is proven effective. However, in the case of the product of a pharmaceutical manufacturer, there often is a very noticeable let-down or rejection of a product before it has been fully investigated to determine its effectiveness and its proper place in the treatment of disease.

Another Change in F.T.C.

President Eisenhower is replacing another member of the Federal Trade Commission who was on the Commission when the President took office. This will leave only Commissioner Lowell B. Mason as the only pre-Eisenhower member of the Commission. The new appointee is William C. Kern, a Democrat, who will replace Commissioner James M. Mead, also a Democrat, whose term expires September 25. Commissioner Mead was appointed by President Truman as was Commissioner Mason.

The new appointee is the son of John W. Kern, who was a Democratic Senator from Indiana, and who ran for vice-president with William Jennings Bryan in 1908. Mr. Kern joined the FTC staff in 1941 and has been with the Commission since, except for a short time out for service in World War II.

The Republican members of the Commission are Howrey (chairman), Mason and Gwynne; and the Democrats are Secrest and Mead.

More Interest in Mentally Ill

The great current interest in the plight of the mentally ill can probably be credited to the pharmaceutical industry as the result of two outstanding drug products which are bringing about not only control, but also cure of badly disturbed patients. Now that control and cure of certain mental ills through medicinal agents has been proven on a wide scale, there is great hope that this most important medical problem is about to be solved to a marked degree. Up to the time that these drugs were evaluated, it looked as though there was nothing to be done for mental patients but shut them up in mental institutions. And the rate at which mental disease patients were increasing, meant that new additional hospitals facilities had to be built continuously. A problem that was more serious than the building of the hospitals was the staffing of them. It was almost impossible to find enough people of the right type to work in these institutions.

Now that most mental patients can be at least quieted and put in a cooperative frame of mind, this problem of staffing these hospitals becomes easier. As a matter of fact, the use of these drugs on the patients of an institution not only benefits the patients, but also benefits the members of the staff of the hospitals by greatly raising their morale. These drugs completely change the atmosphere of a mental institution in which they are used.

When it is realized that nearly half of the country's 1,500,000 hospital beds are occupied by mental patients, one senses the magnitude of this problem. According to Dr. Robert Felix, director of the National Institutes of Mental Health, early treatment is essential because: "During the first year, the patient has a fifty-fifty chance. After two years the chances are sixteen to one against his getting out alive, and after five years, the odds are ninety-nine to one against him."

While only two drugs are being used for treatment of mental disease today (reserpine and chlorpromazine) it is only a matter of time before other therapeutic agents for treatment of mental disease will make their appearance. It must be remembered that up to a very short time ago nothing had ever been discovered that was effective in controlling mental disease. Now that control through use of drugs has been definitely proven, research staffs of our pharmaceutical companies can be expected to produce many more such products some of which might be definite improvements over those in existence today.

Ten Greatest Medical Advances

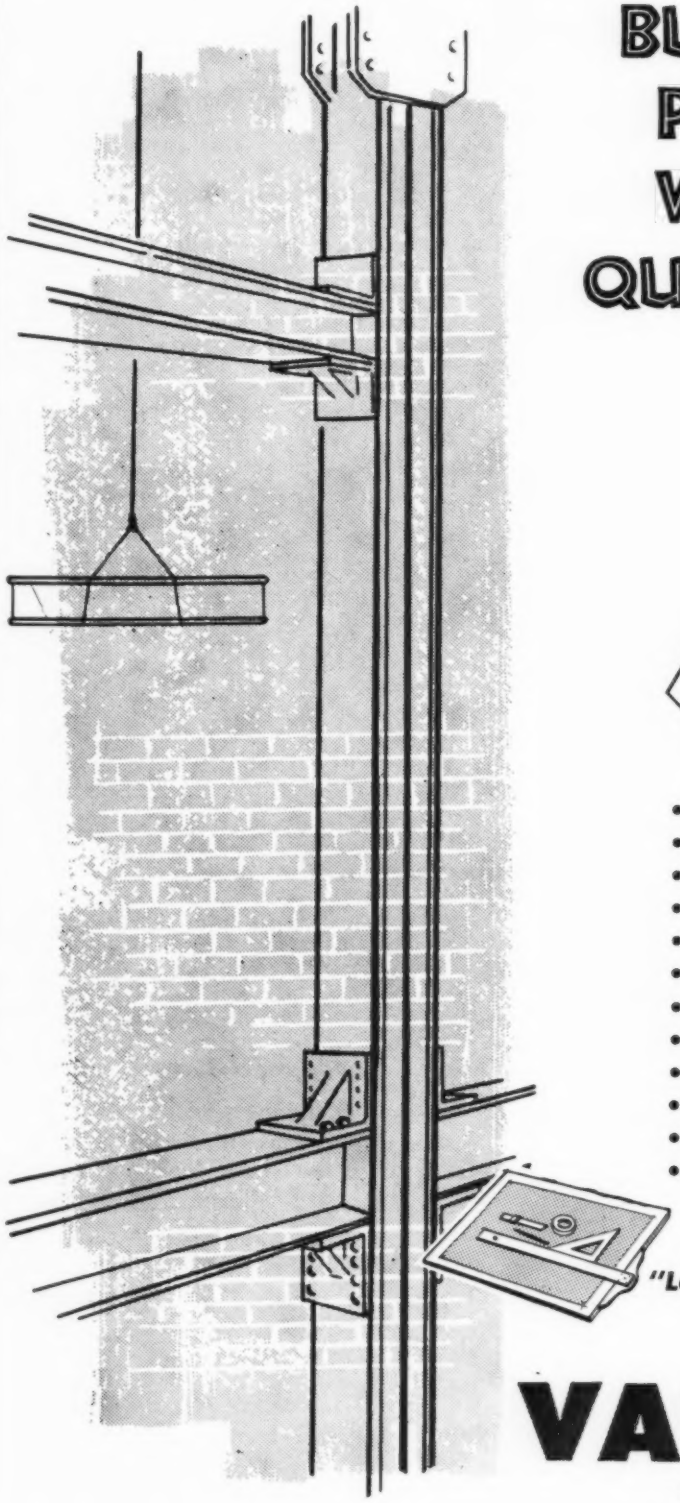
A recent listing of the ten greatest advances in medicine by Dr. Louis H. Roddis, medical officer of the U. S. Navy, places in first place the discoveries of bacteria or other living organisms as the cause of infectious disease. In second place is smallpox vaccination. Third, is the circulation of the blood proven by William Harvey in 1628. Fourth is anesthesia. Fifth is X-ray. Sixth is the transmission of diseases by insects, parasites and other animals. Seventh is the use of ligature to control hemorrhage. Eighth is the conquest of scurvy. Ninth is the discovery of the stethoscope. And tenth is the discovery of the sulfonamides and the antibiotic drugs.

Safety Award to Sheffield Tube

Sheffield Tube Corporation, New London, Connecticut, has received a certificate of merit for outstanding achievement in industrial accident prevention. The Award was given by the Liberty Mutual Insurance Company in recognition of a record of 554,547 man-hours without a lost time accident. At the presentation ceremonies in New London, in the presence of the plant safety committee composed of all plant foremen, George T. Kerr, Personnel Director, received the award from Richard J. Ward, Safety Engineer for the Insurance Company. Edward J. Zaichuk, Supervision Engineer, spoke on the importance of the industrial safety program and its improvement on the injury record at Sheffield Tube.

Looking into Fair Trade

In trying to determine whether or not the Attorney General of the United States should follow the recommendation of his committee to study anti-trust laws, which recommendation was that the McGuire Act and the Miller-Tydings Acts be repealed, Stanley N. Barnes, Assistant Attorney General in charge of the Anti-Trust Division, checked retail prices in the district of Colum-



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bia against retail prices in two nearby states. The District of Columbia does not have a fair trade law, while the nearby states do have them. In a comparison from April to June of last year, which Mr. Barnes said was not exhaustive but significant, the sums of the prices of 736 items in drug stores totaled $2,261.10 in the fair trade states, against $1,602.44 in the District of Columbia.

Mr. Barnes said that fair trade may do the little merchant more harm than good. He said he was concerned over statements put out by certain groups that price maintenance laws actually do the consumer a favor by allowing him to purchase some things cheaper. It was the flat statement that fair trade meant lower prices which led Mr. Barnes to make the retail store check.

Mallinckrodt Facts

Mallinckrodt Chemical Works prospectus published in connection with the recent issuance by the company of 40,000 shares of 4¼ per cent cumulative preferred stock, shows that earnings for 1954 were $339,000, on sales of $35,768,000; compared with earnings for 1953 of $720,000, on sales of $36,207,000; $579,000 for 1952, on sales of $35,080,000; $1,161,000 for 1951, on sales of $35,966,000; and $1,691,000 for 1950, on sales of $31,871,000. Research expenditures stood at $1,001,255 for 1954, compared with $1,140,586 for 1953, $812,389 for 1952, $585,927 for 1951, and $563,221 for 1950. Net plant additions, which totaled $8,470,276 from 1946 through 1954, were $1,658,622 for 1954, $871,859 for 1953, $1,051,783 for 1952, $687,490 for 1951, and $465,815 for 1950. The company's facilities have been increased 31 per cent since 1946, amounting to 274,500 square feet in plant floor space in St. Louis and Jersey City. In St. Louis, this expansion is represented by six new manufacturing buildings. At Jersey City, two warehouses were constructed in 1949 and 1950, and a new office and warehouse building, totaling 11,000 square feet, was completed in 1954. A new laboratory is under construction, which when equipped, will cost $80,000.

The proceeds of the new issue, $2,030,000, will be used in part (about $1,000,000) for construction of a plant required to extract the columbian-tantalum and uranium values from euxenite concentrates by a process developed in the Company's research laboratories, and in part (about $500,000) for working capital required for this operation.

Oregon Fair Trade Voided

The fair trade law of the State of Oregon, the Circuit Court of Appeals of the state has held the law unconstitutional. The case was brought against a local dealer in appliances by General Electric Company. The Court ruled that the attempt by G.E. to control prices for the entire state through a fair trade contract with a single store was basically unsound, and that the legislature under the state constitution, had no right to grant the right to fix prices arbitrarily. The question will not be finally settled until a ruling is given by the Supreme Court of Oregon.

Most Useful Chemical Products

The most useful chemical products developed within the last thirty-five years were determined for E. I. du Pont de Nemours & Company by nine authorities in science, education, and publishing whose opinions were asked by the company. The results, as published in the company's employee magazine, showed that all gave top place to synthetic fibers, antibiotic drugs, and synthetic plastics. Others mentioned as contributing to the new economy were synthetic rubber, animal and poultry fortifying compounds, synthetic insecticides and fertilizers, improved fuels, radioactive isotopes, and new packaging films.

No Garlic in Subway

Odors descriptive of a product being advertised are not always welcome as witness the case of an attempt to put in the New York subways advertisements for the La Rosa Spaghetti Company. La Rosa's agency, Kiesewetter, Baker, Hagedorn & Smith, had come up with a three-dimensional poster to be placed in subway cars. The poster pictured an appetizing plate of spaghetti drowned in sauce, which gave off the odor of oregano, tomato paste and garlic which could be smelled 20 feet away. The aroma was guaranteed to last about 45 days. It was described by the advertising men as "sensational," and "enough to drive a spaghetti-hungry man wild."

However, the men at the Transit Authority had no soul. They said:

"We regret exceedingly that operating as we do public vehicles we would not dare to inflict any aroma, however enchanting or desirable, on the citizens of New York City while riding in their own subway."

The La Rosa executives, who point out that their advertisements in food stores, say that subway riders who have not sampled the delights of spaghetti for years would happily succumb to nostalgia. They say riders would fight to get next to the piquant odor of garlic.

Fair Trade Discredit, Says Lazarus

Fair trade is becoming as discredited as Prohibition just before repeal, according to Fred B. Lazarus, president of Federated Department Stores, an organization with sales of $500 million annually. Said Mr. Lazarus: "Undoubtedly, there is developing in this country an attitude toward fair trade like that toward Prohibition in its last days. There may have been some good in both when they began, but the uses made of fair trade recently have not been for the good of the general public."

Mr. Lazarus said that he would like to see the fair trade acts replaced by legislation which would outlaw or control the loss leader evils.

Much is being heard of substituting legislation to control loss leaders for existing fair trade legislation especially at the Federal level. The U. S. Attorney General's office which is studying the fair trade situation throughout the country appears very much interested in the replacement of fair trade laws with loss leader control laws.

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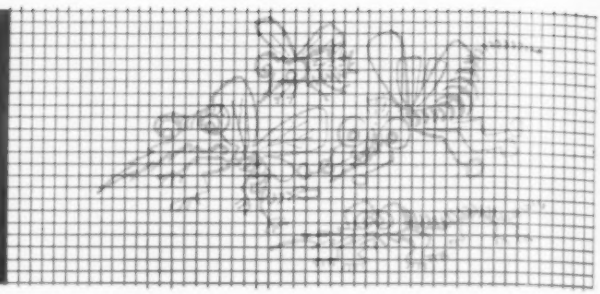

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However, those interested in fair trade can see nothing good about legislation to control loss leaders. While no one seems to know just what form the legislation would take, it appears certain from state laws already in existence, that with the small mark-up required by such laws, that the average retailer would be losing money if he met the lowest competitive prices permitted by such legislation.

Therefore, damage to the brand name of a successful manufacturer would be possible under such legislation as the average retailer certainly would not display and push any item on which he was not making a profit. And even though no retailer would be allowed to sell a product below his invoice cost plus a minimum mark-up, the price-cutting stores would sell at this minimum in an attempt to convince the public that all its merchandise was sold at lower prices than were quoted elsewhere.

T.G.A. Convention Dates

The Toilet Goods Association has set the dates of its conventions for the next three years. They are: for 1956, May 15, 16, 17; for 1957, May 7, 8, 9; and for 1958, May 13, 14, 15. The conventions of the T.G.A. are always held at the Waldorf-Astoria Hotel, New York.

Cycloserine and Oxamycin Identical

In the Journal of the American Chemical Society for April 20, a communication to the editor received March 15 from the Research, Development and Engineering Division, Commercial Solvents Corporation, and Lilly Research Laboratories reveals that the antibiotic, cycloserine of these two companies and oxamycin of Merck & Co. are identical compounds. The communication states that this new broad spectrum antibiotic is still under clinical investigation. The antibiotic was shown to be a relatively simple compound, D-4-amino-3-isoxazolidone. A group from Merck described a simple synthesis for the compound which indicates that if it is proven clinically valuable, it will probably be manufactured by a chemical rather than a microbiological method.

Cosmetic Scientific Awards

The Society of Cosmetic Chemists conferred its first Special Award of $1,000 to Dr. Stephen Rothman at its Spring meeting last month. This Special Award, which is to be an annual event, was created by the Society to encourage publication of outstanding scientific literature in the field of cosmetic technology. The Award is made possible by contributions from firms in the cosmetic and allied industries. This year, 41 firms contributed to the fund.

The Award was conferred upon Dr. Rothman, Professor of Dermatology at the University of Chicago, for his book, "Physiology and Biochemistry of the Skin," which was judged outstanding by a committee of seven who composed the Literature Review Committee.

The presentation of the award, which included a scroll and a check for $1,000, was made by Dr. Kenneth L. Russell, president of the Society. Introductory remarks explaining the creation, rules, and purpose of the Award were made by James H. Baker, chairman of the Society's Special Award Committee. He was followed by Dr. Marion B. Sulzberger, Director of Dermatology, New York University Bellvue Medical Center, who spoke on Dr. Rothman and his book.

Another award presented last month for a scientific paper on cosmetics was the third annual CIBS Award which is given annually for the most worthwhile paper presented to the Scientific Section of the Toilet Goods Association during the preceding year. This award of the Cosmetic Industry Buyers and Suppliers Association, an organization of the younger men in the cosmetic industry, was presented at the luncheon held on the day of the meeting of the Scientific Section of the T.G.A.

The CIBS Award, which consists of a scroll and a check for $250, was conferred this year upon Dr. Amos E. Light, of the Wellcome Research Laboratories, Tuckahoe, N. Y., for his paper "Effects of Estradiol or Methyl Testosterone on Skin and Hair Growth in the Rat." The presentation was made by Harold N. Anderson, of H. Kohnstamm & Company, president of the CIBS.

Drug Stores and Volume Up

In the five-year interval, 1938 to 1953, drug stores registered a 21.4 per cent increase in dollar volume, and an increase of 1.8 per cent in the number of stores, says A. C. Nielson Company. The estimates are based on data purchased by Nielson from the U. S. Bureau of the Census, which were merged with findings of the Nielson Food and Drug Index Service. There are fewer chains in operation today, but chain outlets have made sizable gains in dollar volume since 1948, says Nielson.

Safety from Tropical Diseases

Persons traveling in the tropics are more safe from diseases now than they are from accidents "during a weekend drive on a superhighway," claims Dr. Eugene H. Payne, director of overseas clinical investigation for Parke, Davis & Company. Naming such tropical diseases as dysentery, malaria, typhoid fever, amebiasis, trypanosomiasis, bilharzia, leishmaniasis and oroya fever, Dr. Payne said: "Fifteen years ago, all of these diseases were a definite threat to the tropical traveler. Since that time the conditions have changed completely until now the traveler can be assured of either protection or a rapid cure for these diseases."

Baldness Preparations Cited

Three New York City companies selling substantially the same hair preparations under different names have been charged by the Federal Trade Commission with falsely advertising that these products prevent baldness. Ward Laboratories, Comate Laboratories, and Sebacin, sell substantially the same products under such names as Ward's Formula Medicine for the Scalp and Hair, Comate Medicinal Scalp and Hair Formula, and Sebacin Basic Formula. While the products are advertised

separately, the policies of the three firms are controlled by the same individuals, says the Commission, and these persons are named in the complaint.

The complaint cites as false advertising the following claims:

The common or significant cause of baldness is germ infection; these preparations will remedy this cause of baldness; these preparations will remedy the common type baldness; these preparations will prevent baldness or partial baldness, cause the growth of hair or prevent excessive hair fall.

Medical Research

The second edition of The Chemical Industry Facts Book, issued by the Manufacturing Chemists Association, has some interesting observations on medical research:

"Like Erlich, who created 605 arsenical combinations before he hit upon . . . Salvarsan, modern chemical research undertakes many projects which do not return a profit for each one which leads to a practical application.

"More than 5,000 pain-relieving compounds have been developed but only eight are commercially and medically feasible.

"Some of important investigators in antibiotics failed to strike pay dirt. One company spent $2 million over a four-year period without success. Research investments of millions without marketable results are not uncommon."

The results of chemical research in health and medicine for recent decades are given as follows: 1920 to 1930, disinfectants; 1931 to 1940, sulfa drugs, synthetic detergents, synthetic vitamins; 1941 to present, antimalarials, antibiotics, antihistamines, synthetic hormones, cortisone, antitubercular drugs, amino acids, radioactive isotopes.

New Federal Fair Trade Bill

A new Federal fair trade bill has been introduced in the Senate by Senator Capehart. The bill is entitled, "A bill to amend the Federal Trade Commission Act, as amended by the McGuire Act, so as to declare it to be an unfair method of competition for manufacturers or distributors of commodities subject to resale-price maintenance contracts to willingly and knowingly sell or deliver such commodities (a) to persons selling same at less than prices prescribed in such contracts or (b) to persons selling same to others who so sell, and to provide for injunctive relief and damages to those injured thereby." The amendment, called the "fair-play" amendment, is being backed by the American Fair Trade Council.

The bill provides that any injured party may sue for an injunction and damages against manufacturers or distributors who have established minimum resale prices for their trademarked or branded products under fair trade laws, but who "willfully and knowingly" sell the same products to resellers who habitually sell them at cut prices. This practice, according to sponsors of the bill, "has the effect of luring customers from thousands of reputable retailers who are bound by fair trade contracts not to cut prices set for those same products by the same manufacturer."

Senator Capehart points out that even though the McGuire Act has been in successful operation for three years, "There has developed, in spite of the Act, a type of unfair competition that has worked a hardship on reputable resellers upon whom the public relies for services traditionally essential to maintenance of the American system of distribution."

Manufacturers who pretend to fair trade, and then connive secretly to supply cut-price retailers with the same fair-traded product in direct competition with honest retailers, should be ferreted out by the Federal Trade Commission and subjected to restraint, Senator Capehart said.

Food and Drug Officials

"Some of the greatest problems facing food and drug control officials today are the determination of the safety of chemical additives to foods, the detection of insecticide residue or other unwanted ingredients in foods and drugs, and the enforcement of correct, factual labeling and advertising for food and drug packages," says Eugene H. Holman, Supt. and State Chemist, Division Foods Drugs and Dairies, Department of Agriculture, Nashville, Tenn., who was elected president of the Association of Food and Drug Officials of the United States at its annual meeting held last month in New Orleans. James M. Dughty Jr., Director Division of Foods and Dairies, Department of Public Health, Santa Fe, New Mexico, was elected vice-president. Even Wright, Director Division of Food and Drug, Department of Health, Topeka, Kansas, was elected secretary-treasurer. Lowell D. Oranger, Director Division of Foods and Dairies, Department of Agriculture, Chicago, was elected to the board of directors.

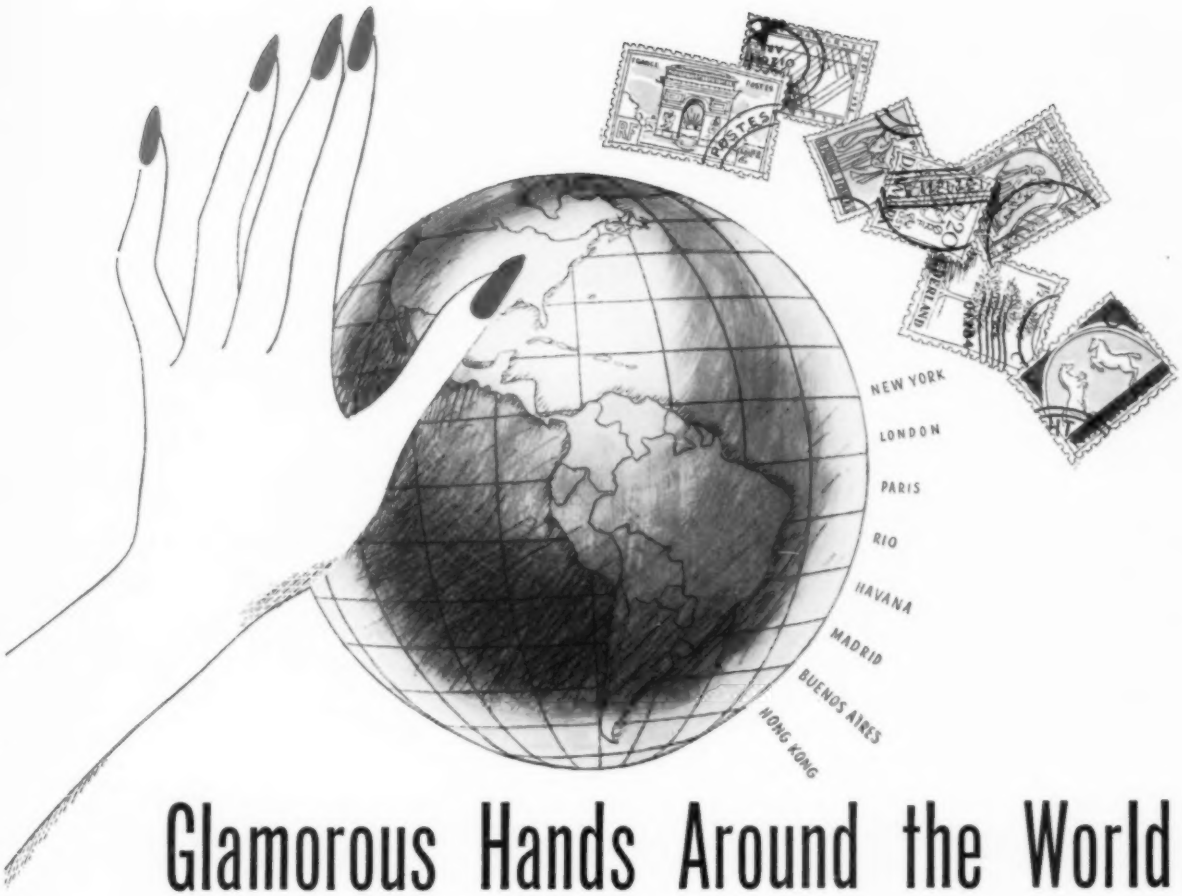
Substitution Again

Four Chicago pharmacies have paid substantial damages to Abbott Laboratories for substituting on Abbott products and have agreed to the entry of permanent injunctions restraining them from further acts of substitution in filling prescriptions calling for Nembutal and other Abbott products. Judge Daniel Roberts of Cook County Circuit Court, in ordering the preliminary judgments, said in part:

"Who can stand in between the doctor and the patient and say, 'My judgment is as good as this doctor's?' . . . The point is that the druggist has no right at any time to substitute anything for what the doctor ordered. If you ever get to the point where you could prove that in court and establish it, then we would have no doctors, we would have druggists only."

Apologies

Reporting last month on SKF restricting distribution to wholesalers, we said that the only other leading pharmaceutical manufacturer so restricting distribution is Eli Lilly. But, D. Mead Johnson, president of Mead Johnson, tells us: "Mead Johnson & Company, fifty years old this year, has from its inception maintained a policy of distribution through franchised wholesalers and has never sold direct to the retail drug trade."



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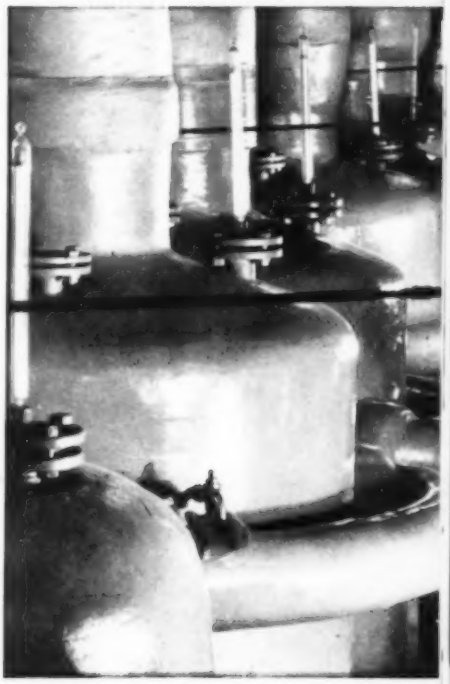

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Disease Control With Drugs

WIDE WORLD PHOTO

Beyond question, the control of disease through therapeutic agents is scaling to still greater heights. The present era in the control of disease by drugs and other therapeutic agents more or less specific in nature which started with the sulfa drugs in the thirties, certainly shows no signs of abatement, but rather is still accelerating. Diseases over which little or no control could be exercised only a short time ago, are showing definite signs of succumbing to new therapeutic agents only recently discovered.

One of the very interesting facts concerning the diseases that are coming under control is that several of them are very costly public health problems because of their catastrophic nature. One notes in the daily press repeated notices that certain tuberculosis hospitals (old ones to be sure) are being closed because of the decrease in the demand for beds for this disease. And one also reads that the cause of this decrease in the demand for beds for tuberculosis is due to the efficacy of the three drugs—streptomycin, PAS, and isoniazid—which are being widely used for treatment. And the end of effective drugs for this disease is not yet in sight. Pharmaceutical manufacturers are conducting clinical trials on newer products which it is hoped will permit still greater control over this disease.

Not only are the drugs thus far discovered and widely used in the treatment of tuberculosis saving lives but they are returning people to their families and to useful occupation at a much more rapid rate, and they are also saving the people of this country large sums of money in the form of taxes through reduction of necessary hospital facilities for tuberculosis, compared with increased or new facilities which would have been required if these drugs had not been discovered.

Another, and perhaps the most important step being taken in control of a disease which represents a most burdensome public health problem, is that of attempted control of mental disease through the use of drugs. Here we have at present at least two drugs which appear certain to bring under control an extremely large number of people suffering from mental ailments and now hospitalized in large numbers in public and private institutions. These drugs have been found to quiet patients, make them cooperative, and even bring about improvement that allows them to be discharged as cured. The improvement in the attitude and behavior of the patients results in a greatly improved morale on the part of the hospital staffs. This improvement in the morale of the staffs of mental institutions is most important as the proper staffing of these institutions has been one of the greatest problems in proper and adequate treatment of the mentally ill.

Another disease, catastrophic in nature, and presenting an important public health problem, is poliomyelitis. That this is about to be brought under control is generally known far and wide because of the great publicity given to the Salk vaccine. Despite the difficulties encountered in making this product available for prophylactic treatment of this disease, it is generally felt with certainty that complete control of this disease will be realized within a comparatively short time. This does not mean that the Salk vaccine is necessarily the final answer since it was found in the nation-wide test last year to be only 60 to 90 per cent effective. But it is felt that the Salk vaccine should reduce the number of cases of the disease by a very large amount. And while the Salk vaccine is being used to establish this very important control over the disease, research will continue in an attempt to find a product that might possibly be 100 per cent effective and eradicate the disease altogether.

The basic reasons why poliomyelitis is coming under control are three important discoveries. The first was a method of growing the three types of polio viruses so that unlimited supplies would be available to make a vaccine. The second was the discovery that the polio viruses are first in the blood stream of the body and can possibly be killed there before they attack the central

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Dry Skin

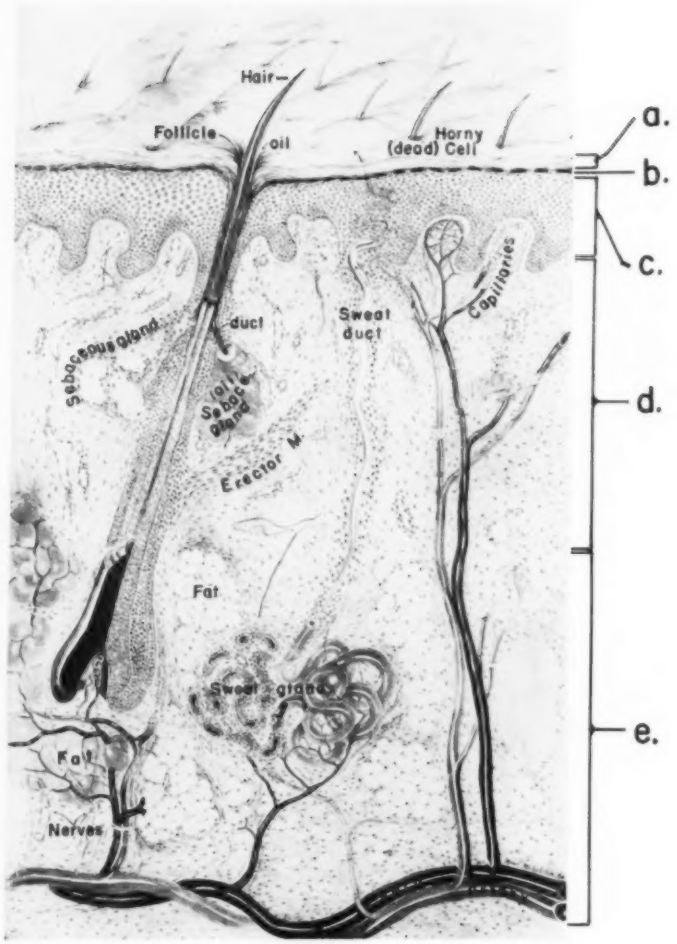
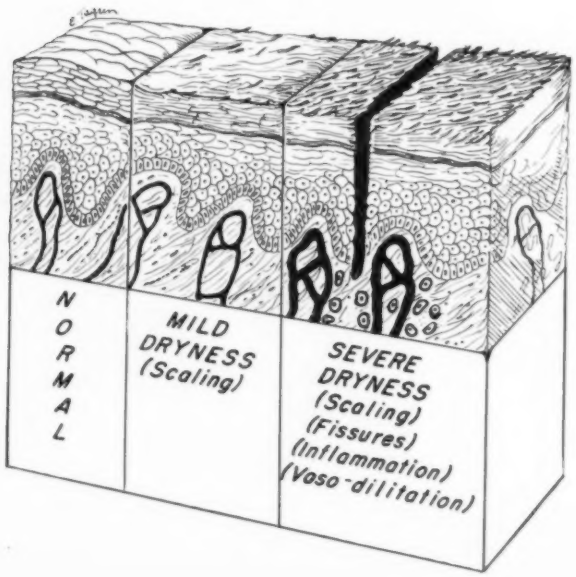


Fig. I. Schematic representation of normal skin. The dotted line indicates the position of the barrier at the base of the stratum corneum. 1) Stratum corneum; b) Barrier; c) Stratum germination; d) Dermis; e) Subcutaneous tissue.

Fig. II. Schematic representation of mild and severe dryness.



Since the development of a dry skin is more complex than a simple deficiency of natural oils, a process for the relief of dryness which is directed simply towards the replacement of natural oils may not necessarily accomplish its purpose. The ability of a cosmetic to prevent or relieve dryness appears to be a function primarily of its ability to increase the water content of the stratum corneum. Its oily or lubricating property, per se, does not serve to relieve dryness except in so far as it helps protect the skin and to make the cutaneous surface smoother.

A cosmetic for the relief of dryness should contain an agent which will form a relatively occlusive, continuous film on the cutaneous surface, thus helping to prevent the loss of water from the skin, or an agent which will help attract water to the stratum corneum from the environment. A cosmetic should be a good protective and in itself not irritating to the skin.

Various names have been given to agents used for the relief of dry skin. Pharmacological literature[1] refers to emollients and demulcents. Emollients are defined as those substances which are "employed as protectives and as agents for softening the skin and rendering it more pliable." Examples of emollients are vegetable fats, animal fats, hydrocarbons, and waxes. Demulcents are defined as those substances which "tend to coat the surface, and, by mechanical means, protect the underlying cells from stimuli which result from contact with air or irritants in the environment." Gum acacia, gum tragacanth, glycerin, propylene glycol, and polyethylene glycol are listed as demulcents.

The cosmetic literature seldom uses the word demulcent, and most commonly refers to emollient and lubricating creams.[2] Wells[3] says that "the term, emollient, implies something of a soft, softening and soothing character," and that emollient creams "are all designed to be corrective and to some extent protective." Included in this author's list of emollient creams are "skin foods, nourishing creams, tissue creams, night creams, lubricating, massage, anti-wrinkle, hormone, rejuvenating, and vitamin creams." Surely this author did not mean to imply that each of the many ingredients of these creams is used specifically for softening the skin. Nevertheless, the emollient creams or hand lotions now manufactured may have relatively complex formulations and their compositions may vary from manufacturer to manufacturer and from time to time. It is

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Treatment*

by *Irvin H. Blank, Ph.D.*

DEPARTMENT OF DERMATOLOGY, HARVARD MEDICAL SCHOOL
AND THE DERMATOLOGICAL RESEARCH LABORATORIES,
MASSACHUSETTS GENERAL HOSPITAL, BOSTON 14, MASSACHUSETTS

quite obvious that an emollient cream can be best and most simply formulated if the cause of the dry skin is determined and if the mechanism of the action of agents used to prevent and relieve dry skin is understood.

Normal Skin

Normal skin (Figure I) has a relatively smooth surface. Its contour is somewhat irregular because of the skin markings, wrinkles, and hair follicles. Actually the surface of the skin is the top surface of the stratum corneum or cornified epithelium. The cornified epithelium. The cornified epithelium is formed by the keratinization of epidermal cells as they move from the lower layers to the surface. During keratinization, the water content of these cells decreases, they flatten, become somewhat adherent to each other, and form the lamellae of the stratum corneum. New lamellae are continuously being formed at the base of the stratum corneum and old layers of cells are being shed from the surface. The shedding of layers and clumps of cells is probably decreased by the presence of the oily layer of sebum on the surface. Sebum, the secretion of the sebaceous glands, which reaches the surface via the hair follicle, helps to give the skin a smooth feeling.

In our consideration of dry skin, attention will be focused primarily on the stratum corneum. We shall need also to consider the actively growing portion of the epidermis (stratum germinativum) and the vascular supply to the skin, particularly the capillaries.

The major barrier against penetration of many substances into the skin and against water loss by diffusion through the skin from within the body, appears to be a thin layer near the base of the stratum corneum. Water and possibly other substances seem to be able to penetrate the portion of the stratum corneum above this barrier and the epidermis below the barrier without too much difficulty. The lipid film on the surface of the skin does not seem to be a very effective barrier. Evidence in support of these statements will be given below.

Description of Dryness

In what way does the normal anatomy of the skin change when it becomes dry? Dryness probably occurs stepwise and there may be "mild dryness" or "severe dryness and chapping." Mild dryness (Figure II) seems to be simple scaling of the surface of the stratum corneum and probably some loss in the flexibility of this layer.

As dryness and scaling become more severe, breaks may occur through the entire thickness of the stratum corneum which interrupt the continuity of the barrier. These breaks permit various substances, such as soaps, household detergents and cosmetics, to get into contact with living cells below the barrier. Some of these substances may cause a non-specific increase in the rate of proliferation of these cells. When the epidermal cells are produced more rapidly, incomplete keratinization may occur, the stratum corneum will become thicker and increased scaling will be present.

Because the stratum corneum is thicker and more brittle, a deep break or fissure through the entire epidermis may occur when the skin is flexed. There may

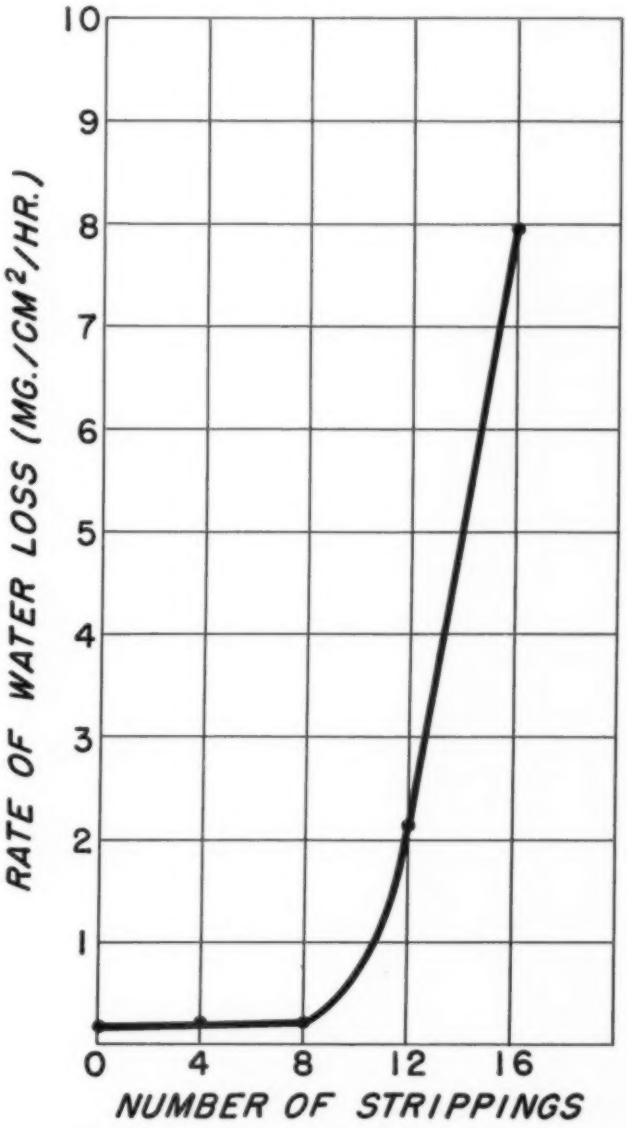

Fig. III. Showing the effect of stripping abdominal skin with adhesive plaster on the rate of diffusion of water through the skin.

be bleeding if the capillaries are also broken. Various substances enter through the fissures, irritate the living cells, and inflammation results. The swelling is caused by fluid and cellular infiltration into the dermis, particularly around the capillaries. The inflammatory process can further stimulate the living cells of the epidermis and a new cycle starts. This is severe dryness and chapping (Figure II).

Development of Dryness

Under what conditions do these changes in the normal anatomy occur? That the cornified epithelium of the normal skin of man is flexible is quite apparent; our skin bends easily without cracking. If cornified epithelium—a callus from the sole of the foot or the top of a sunburn blister—is removed from the skin and allowed simply to lose water, it becomes quite brittle and will break if bent.It is apparent that none of the natural oil of the skin is removed in this process and the skin has become brittle simply as a result of desiccation. It thus seems likely that neither a natural deficiency in oil nor one brought about by frequent contact with detergent solutions will adequately account for brittleness. A water deficiency is necessary to produce decreased flexibility.

Water replacement should cause the cornified epithelium to become flexible again and it can be shown that soaking dried cornified epithelium in water or simply allowing it to absorb water from a humid en-

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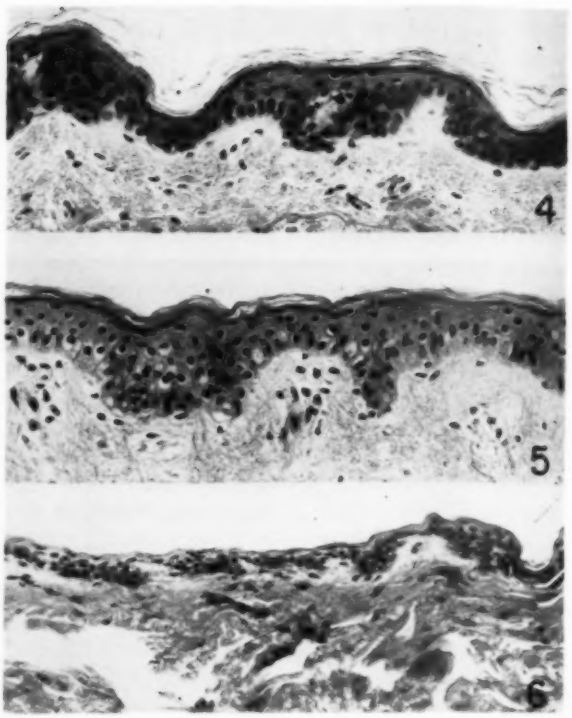
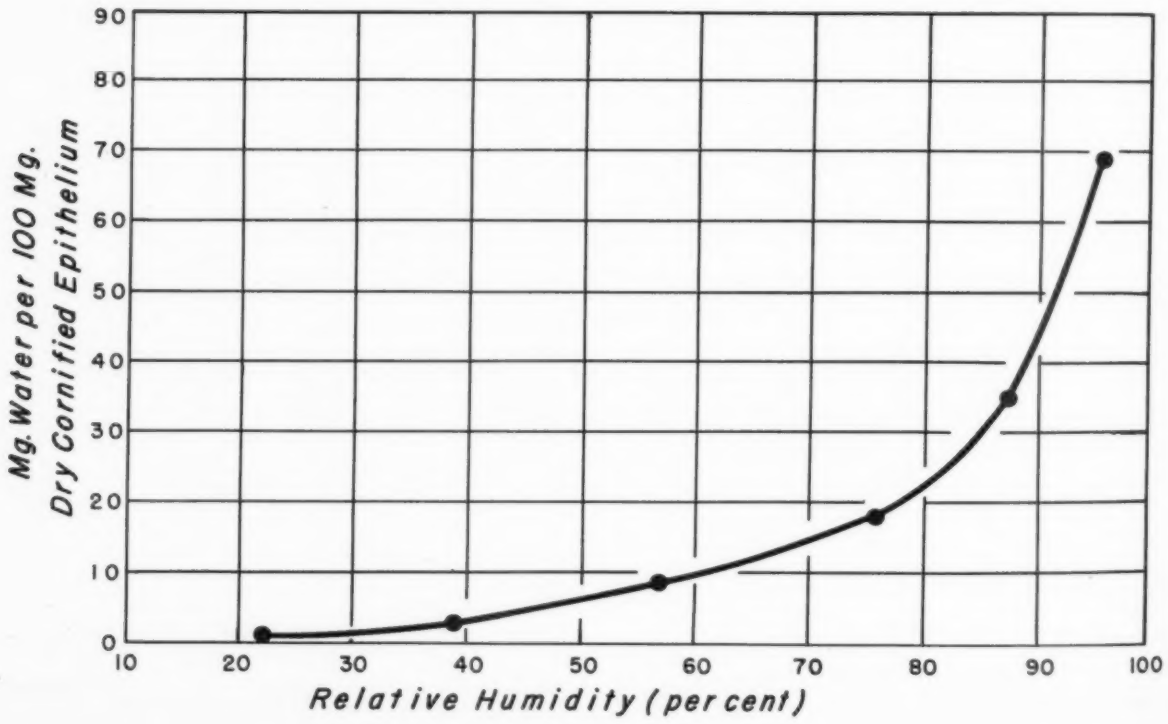


Fig. IV. Normal abdominal skin (hematoxylin and eosin, x 220).

Fig. V. Abdominal skin after eight strippings with adhesive plaster (hematoxylin and eosin, x 220). Note the decreased number of lamellae in the stratum corneum as compared to normal skin (Fig. IV).

Fig. VI. Abdominal skin after 12 strippings with adhesive plaster (hematoxylin and eosin, x 220). This picture represents that portion of the skin from which the entire stratum corneum was removed.

Fig. VII. Showing the relationship between the water content of cornified epithelium and the relative humidity of the environment at 23 ° C.



Surfactant Properties

by Harry Hilfer

During the past thirty years, there has been an accelerated study of surface active agents which has led to a large number of substances with fairly specific properties. Their appearance has improved the efficiency of practically all industries and they are in use in applications as diverse as textile dyeing and are flotation in mining operations. In spite of all other work the chemistry of surface active agents is still somewhat obscure, and there is no doubt that a great deal of basic work still remains to be done, but a clearer picture of the mechanism of these substances is emerging and will no doubt become clearer with time.

One of the greatest difficulties in studying these substances is a clear definition of terms. We are all hazily aware that surface active agents, and specifically those used in oil-in-water media, lower the surface tension of water and that as a result the water is capable of wetting a foreign substance more easily. This in turn leads to problems in detergency since "wetting" must inevitably be part of a detergent function and then we come to emulsifying agents which must have both wetting properties and in a sense detergent properties as well. There can therefore be no clear line drawn between these three functions, but at the same time it can be shown that some substances are good wetting agents but not necessarily good emulsifiers and others may be good emulsifiers without being good detergents. Another complicating factor is the problem of foaming—for though good sudsing is identified in the popular mind with good detergency, this is not necessarily true. Indeed, there are several excellent foamers which are poor detergents.

Another complicating factor is the temperature at which these materials are used. Sodium stearate has no value as a detergent to speak of at room temperatures, but has excellent detergent properties at just below the boiling point of water. Any attempt to correlate a wetting, detersive or emulsifying function with chemical structure must therefore be done with these variables in mind.

All surface active agents of the type under discussion are characterized by containing both a hydrophobic and hydrophylic group within the same molecule. The position of these two groups in relation to each other affect the wetting properties. It is now generally known that best wetting properties are produced by compounds whose hydrophylic group is in the center of the molecule. Substances such as di (2-ethyl hexyl) sulfosuccinate are among the best wetting agents known. On the other hand, detergency is poorest when the hydrophylic group is in the center of the molecule, the best detergents being those substances having a hydrophile and hydrophobe at either ends of the molecule. This general statement differs only in degree since the same phenomenon seems to hold true in the same homologous series in which the same lipophile and hydrophile are employed.

(Continued on page 866)

COURTESY LEVER BROTHERS CO.

ZIRCONIUM Deodorants*

by Joseph Kalish, Ph.D.

At least one major company is currently marketing a deodorant preparation featuring a zirconium salt as an important ingredient; others are setting up their merchandising schemes and still others are investigating the subject. A general summary of the properties and uses of zirconium compounds as deodorants will serve as a useful basis for those wishing to check the utility of this element in deodorants.

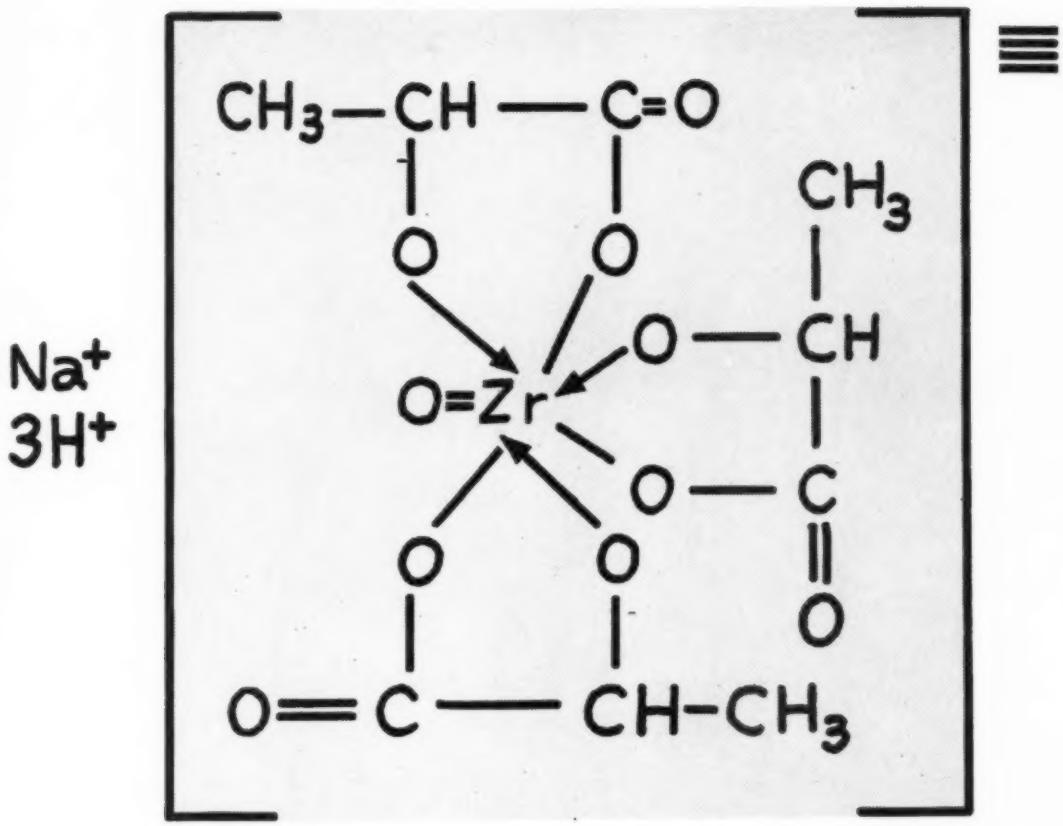
Zirconium, atomic weight 91.22 and atomic number 40, is in group IV of the periodic table. This group includes carbon, silicon, titanium, zirconium, hafnium and thorium as the main group and germanium, tin and lead as the subgroup. The main group members have a maximum valence of 4+, with zirconium dioxide, ZrO_2, as a typical example. Hafnium is so similar to zirconium in its properties that technical zirconium compounds are seldom free from hafnium. As a matter of fact, many titanium and zirconium compounds exhibit very similar chemical behavior, so that it might not be too far-fetched to expect complex formation and possible deodorizing and protein-precipitating action from some titanium derivatives. Most important is the fact that simple ions of zirconium do not exist, the element serving as the central atom or atoms in a large variety of complex cations and anions; in covalent compounds coordination numbers up to eight occur.

It is in the form of a complex salt (coordination number 8) that a soluble zirconium salt is utilized as a deodorant; the salt is systematically named sodium hydrogen trilactatozirconylate and is represented above. More commonly, the compound is called sodium zirconium lactate and its manufacture is described in U. S. Patent 2,498,514. A solution of zirconium oxychloride is added to a solution of lactic acid at room temperature in the proportion of one mole of the zirconium salt to three moles of the aliphatic hydroxyacid. The precipitate is collected, washed free of chlorides, resuspended in water and treated with concentrated sodiumhydroxide solution. The solid dissolves to form a clear solution with a pH value close to neutrality. Similar solutions result from the use of malic or tartaric acid (one mole to one mole of the zirconium salt) or citric acid (two moles to three moles of the zirconium salt).

The commercially available solution of sodium zirconium lactate is clear and colorless, with a density of 1.28-1.30. Its solids content is 40 to 44 per cent, depending on the final pH adjustment and it assays 12.5 to 13 per cent ZrO_2 by weight. The pH of this solution is 7.5 to 8.2 and it is stable, without precipitation, in the range 6.5 to 10.5. The solid salt is quite soluble in methanol and ethanol, has limited solubility in isopropyl and normal butyl alcohols and is insoluble in hydrocarbons. It is compatible with soaps, aluminum salts and hydroxyamines like the ethanolamines. High molecular quaternary amines are also generally compatible, but it might be advisable in this instance to run a preliminary compatibility test—mix the zirconium salt and the cationic surface active agent together in solution in approximately the concentrations that will finally be used. Observation for a few days will reveal visible changes, if any occur.

The neutral reaction of sodium zirconium lactate eliminates one predisposing factor in skin irritation. Reported animal toxicity studies tend to confirm this presumption. When fed to mice at the rate of 50 mg. daily (equivalent to the large dose of 2.5 grams per kilo of body weight) for one month, sodium zirconium lactate caused no change in growth rate and gave no other evidence of toxicity on tissue examination. Topical application of a 15 per cent solution to rabbits showed no effect on intact skin and no interference with healing of scarified skin. Continued application to the skin of rabbits for 30 days also showed no gross effect and histological examination of the skin showed no changes. No changes could be shown in internal organs, so that absorption of the compound, if it took place at all, was without toxic effect. To investigate the possibility of sensitization, subcutaneous injections of sodium zirconium lactate solution were made in guinea pigs on alternate days for ten days, followed by a challenging dose 14 days later. As was to be expected, slight irritation followed the first injections, but the flare-up that would show sensitization to the final dose did not occur. These animal studies have been quite fully confirmed by a series of unpublished studies on human subjects: the compound is non-irritating when applied to skin.

In feeding tests with animals it was noted that the bacterial flora of the gut were markedly reduced, but sodium zirconium lactate gave no evidence of bacterio-



static action when tested in vitro. The deodorant action of the soluble compound must then be due to the ability of zirconium to form insoluble complex compounds with many organic substances. In this instance, the compounds would be various fatty acids, amine-like bodies and other odoriferous compounds present in perspiration. In the acid pH range, some antiperspirant action, as evidence by in vitro protein precipitation, is possible. The lower pH must be attained by means of a weak acid or by a buffer system, however, or the freedom from attack on fabrics, which is notable at neutrality, will be lost. Finally, there is reason to believe that the soluble zirconium salt has a direct affinity for the proteins of the skin. This would tend to prolong its action as a deodorant.

Representative formulas are given below for various types of cosmetic preparations utilizing sodium zirconium lactate as a deodorant. Since the metallic salt is compatible with aluminum compounds, in some instances it may be useful to utilize combinations containing aluminum chlorohydrate for added activity. Hexachlorophene or a quaternary surface active agent may provide useful bacteriostatic action. Perfume mixtures, on the other hand, must be carefully checked before use, since some of the important components may be precipitated and inactivated by the zirconium salt.

The following solution is suitable for pads, applicator bottles, or flexible squeeze bottles.

Sodium zirconium lactate	15.0
Glycerine	5.0
Alcohol	20.0
Perfume, as required	
Water, to make	100.0

Deodorant Stick

Sodium zirconium lactate	5.0
Sodium stearate	8.0
Propylene glycol	5.0
Perfume as required	
Alcohol, to make	100.0

Deodorant Powder

Sodium zirconium lactate	5.0
Talc	50.0
Zinc stearate	5.0
Precipitated calcium carbonate	25.0
Colloidal kaolin	15.0
Perfume, as required	

*The use of sodium zirconium lactate and related zirconium salts as deodorants in emulsified compositions is covered by U. S. Patent 2,498,514, issued to Henry L. Van Mater on February 21, 1950, and assigned to the National Lead Company.

Proprietary Association Meeting

The running battle between the Proprietary Association and organized pharmacy over restrictive sales of packaged drug preparations was a topic of thorough discussion at the 73rd annual meeting of the Proprietary Association held at While Sulphur Springs May 23 to 25. Dr. Frederick J. Cullen, executive vice-president of the Association, said that there are only seven States that have Pharmacy Acts which are modern in the respect that they contain, among other things, an adequate definition for the term "patent and proprietary medicine." Said Dr. Cullen: "The basic structure of most of the pharmacy acts on the statute books today is approximately fifty years old, but each act includes a section that exempts patent and proprietary medicines from sale by a registered pharmacist. However, not one of these old acts includes a definition for the specific terms. Hence, the confusion for so many years. . . .

"We hear an ever-increasing number of stories concerning the dangerous or poisonous effects of certain drugs. With each repetition the story becomes more vicious, and to the layman without medical training the use of these drugs must certainly appear to be an extremely dangerous adventure.

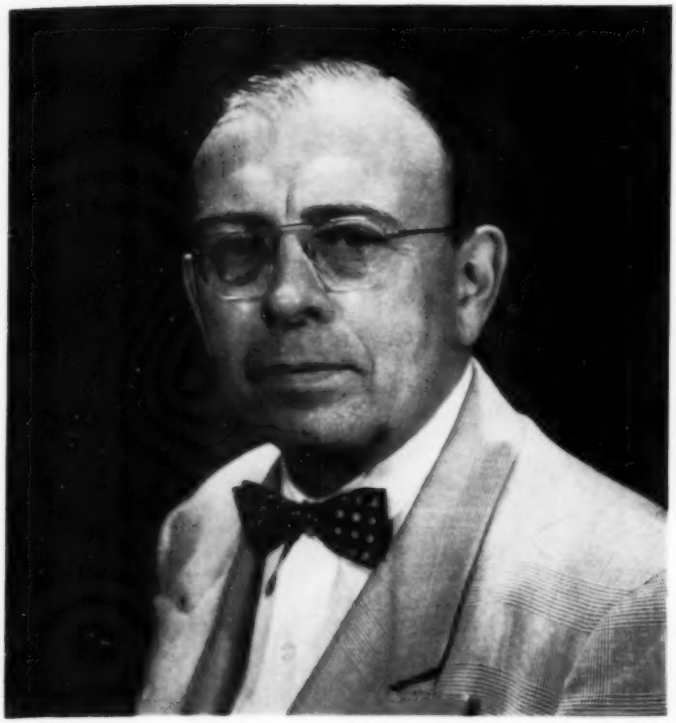
"I choose to call this a 'smear campaign,' and I use the words advisedly. All types of schemes have been used by the proponents of restrictive sales in their attempts to amend the various State Pharmacy Acts to restrict to licensed pharmacies the sale of adequately-labeled packaged medicines.

"One State Act was amended so as to provide that the law would not restrict the sale of 'proprietary medicines *except* those proprietary medicines which are poisonous, deleterious and/or habit-forming.' Such a requirement, on its face, seems perfectly logical and reasonable. But let's look at the regulation that was established by the State Board of Pharmacy under that section of the Act. It provides, that—'. . . if the contents of its container, or any part thereof, *taken at one time*, are likely to prove poisonous, deleterious or habit-forming shall be sold only by a licensed pharmacist . . .'

"Isn't this a bit absured when we realize that this method of consumption is not normal, since the directions included in the labeling are disregarded. Further, the definition of a poison is 'too much.' And that means 'too much' medicine, 'too much' food, or 'too much' drink. Even if the contents of a whole package were consumed at one time—of a product that is safe when used as directed—it stands to reason that some harmful or unpleasant effects may follow, and this would be true of a food or a beverage.

"One wonders—is it unreasonable to believe that this particular Board of Pharmacy may some day attempt to stretch this regulation so as to require that the pharmacist go to the home of each patient that has a prescription filled, to make sure that only the amount of medicine directed by the physician is consumed? Or does it mean that the Board is attempting to require the manufacturer to package his product only in units of one dose?

"We can rest assured that it would not be long before many pharmacists would be selling a customer more than one dose at a time, and thus a quantity of medicine could be placed in the hands of the consumer that



Stanley I. Clark, vice-president, Sterling Drug Inc., re-elected president of the Proprietary Association.

would be considered by the Board as likely to be poisonous, deleterious, or habit-forming under their own interpretation of the Act.

"Do you suppose the proponents of the restrictive sales programs ever stop to consider how their schemes, if adopted, may increase the cost of medical care?"

Quoting from an editorial in the Journal of the American Pharmaceutical Association and from an address by the A.Ph. A legal adviser, Dr. Cullen said:

"This shows conclusively that without a definition a Board of Pharmacy can change its mind about a patent or proprietary medicine to suit its own whims, thus making it possible to attack any specific preparation or group of preparations.

"If their definition is made known, or if a legal definition were to be established, 'will-o'-the-wisp' changes can no longer be made. The Board would be required to observe a regular legal pattern. Hence, it would seem that 'the cat is out of the bag' as to why a legal definition is not desired.

"The proponents of restrictive sales will not make known their definition for a patent or proprietary medicine. However, members of the hierarchy of pharmacy are always ready to criticize, and I do not mean constructively. They are attacking the definition proposed by The Proprietary Association and stating that it substitutes the word 'nationally advertised' for the words 'poisonous or potentially harmful.' A careful study of the proposed definition will show this is not the fact. It would seem to me that the proponents are emphasizing the word 'poisonous and potentially harmful' merely for the purpose of throwing additional words—which are not specifically defined—into the already seething cauldron of confusion. This, in my opinion, is merely another attempt to cover up the real purpose of the restrictive sales campaign."

"The consumer has a great stake in this restrictive sales campaign," concluded Dr. Cullen, "and one wonders—is it not about time to make known to him all of the facts—the whole truth, that is—in this restrictive sales fight? And, if we do that, let neither of us be too self-righteous. Let us recognize both the good and the bad. Just as some manufacturers occasionally violate the law, so do some druggists. The Food and Drug Law Reports contain a section entitled 'Violative Sale of Prescription Drugs.' Let us discuss in a positive manner the precautions that are taken by the manufacturer in the preparation and labeling of a product. Let us discuss the protections that are afforded by the controls exercised by the Federal Food and Drug Administration. Then let us allow the consumer to determine for himself who is making the effort to protect public health.

"The consumer must also be told that when a packaged medicine is recommended as of value in relieving symptoms or conditions that can be satisfactorily treated by home medication, its manufacturer assumes a peculiarly distinctive responsibility to his fellow-man. Therefore, he is duty-bound to supply a product that is safe when used as directed and that is efficacious. There is not a manufacturer who is a member of this Association who does not distribute effective medica-

(Continued on page 861)

T. G. A. meeting

Celebrating twenty years of the Toilet Goods Association, John A. Ewald, president of the Association, pointed out that the cosmetic volume had trebled in this twenty-year period from $324,400,000 in 1934, to $1,086,000 in 1954. The theme of the Twentieth Annual Convention of the Association, held at the Waldorf-Astoria Hotel, New York, May 10, 11, 12, was Twenty Years of Growth with America. Mr. Ewald said: "Our progress can be attributed to keeping pace in a market of ever-changing character. To have the right product in the hands of the consuming public at the right time requires keen insight, analysis and vision. The results arrest to such thinking."

Mr. Ewald, president of Avon Products, Inc., was reelected president of the Association for the coming year. Reelected also were four vice-presidents: Jean Despres of Coty, Inc.; Pierre Harang of Houbigant Sales Corporation; A. E. Johnson of Colgate-Palmolive Company; and C. T. Lipscomb Jr. of The J. B. Williams Company. Philip C. Smith of Yardley of London, Inc., was reelected treasurer, and William F. Denny Jr. of Frances Denny was reelected secretary.

Directors reelected for a three-year term are Robert B. Brown of Bristol-Myers Company, and C. W. Godefroy of Godefroy Manufacturing Company. Newly elected as directors for a three-year term are R. E. Ewalt of Noreen, Inc., Denver; J. George Fiedler of Kelton Cosmetics, Inc., New York; William Mennen Jr. of The Mennen Company, Morristown, N. J.; Richard Salomon of Charles of the Ritz, Inc., New York. Directors reelected for a one-year term to represent the Associate members are Dr. Victor G. Fourman of Syntomatic Corporation, New York; and Paul E. Roehrich of The Richford Corporation, New York.

Having studied the past performance of the cosmetic industry, Dan Rennick, editor of the American Druggist, undertook to predict the future. Based on the prediction by experts that population in this country will have increased 17 per cent by 1980, and the prediction, also by experts, that disposable income will have increased 35 per cent per capita by that year, Mr. Rennick found that disposable income for the country should increase by at least 98 per cent by 1980. Then using a formula which he has found to apply—that for each rise or fall of 10 per cent in disposable income, there is an eight per cent rise or fall in cosmetic volume, —Mr. Rennick found that cosmetic volume in 1980 should be at least 78 per cent above what it is now.

"A sales gain much greater than 78 per cent can be achieved by those manufacturers who incorporate in their products more of the utilitarian factors that consumers want—factor that offer greater efficiency, greater safety, and greater convenience," said Mr. Rennick. As examples of the trend over the past 25 years toward improving the utilitarian aspects of cosmetics, he cited the following:

Making products more efficient, as in the addition of quick-drying ingredients to nail polish.

Making products safer to use, as in the incorporation of calcium thioglycolate in depilatories.

Making products more convenient to apply, as in the use of aerosol cans for shaving creams.

John A. Ewald, President, The Toilet Goods Association

As proof that the utilitarian trend increases sales more than does reliance on glamor appeals alone, Mr. Rennick noted that the products which have shown the biggest volume jumps over the past 25 years are those in which changes were made in the direction of greater utility. He cited shampoo (up 1026 per cent since 1930); deodorant (up 732 per cent); lipstick (up 361 per cent). By comparison, disposable income rose 200 per cent during the past 25 years.

Mr. Rennick also cited three products which showed the greatest decline in the past 25 years. These are: rouge—down 59 per cent; perfume—down 57 per cent; and face powder—down 48 per cent.

The trend to incorporate in cosmetic products a greater number of advantages to consumers is definitely accelerating, according to Mr. Rennick. He referred specifically to "cosmepeutic" products—those which make a contribution to the consumer's health as well as to his or her appearance. Examples of such products already on the market are face creams containing vitamins and hormones, and dentifrices containing ingredients which kill decay-causing bacteria. The next quarter-century may see the development of "geriatric cosmetics," designed to offer therapeutic benefits to the ever-increasing over-65 population, he said. The years ahead may also see the development of special toiletries for teen-age boys, as well as the formulation of such items as hair dressings and deodorants for babies, he added.

Mr. Rennick predicted greater use of aerosol packaging for cosmetics, greater use of the single application packages, and of miniature cosmetic kits, containing almost all the cosmetics a woman might need, yet small enough to be carried easily in her handbag.

Americans are not satisfied any longer with having enough to eat, a roof over their heads, and with buying a few of everyday luxuries, Dr. Ernest Dichter, of the Institute for Motivational Research, told the meeting. He continued:

"We want refinement. We want to express, in each purchasing act, our individuality, our 'finesse in living.' As a result there is going to be more and more demand for 'rational sophistication'—sophistication that is not outside the consumer's experience—in our products. This will be looked for in the claims for a deodorant as well as in the design of a toilet soap wrapper. Most of us are convinced that we will be better off three years from now—five years from now. And, having parted with our former puritanical ideas, we want more fun out of life. Our surveys have shown that many people are ready to accept new products and new ideas that promise them greater enjoyment of life. Price is no longer the key factor. The higher-priced soap or perfume—as long as it satisfies a psychological or emotional need— will find greater acceptance."

Looking at retailing in 1970, Arthur C. Fatt, executive vice-president of Grey Advertising Agency, sees the department store as no longer the one-stop shopping giant dominating a congested area in an urban center. It will be typically a multiple store operation sometimes local, often regional, and in some instances national, he believes.

(Continued on page 872)

ALLANTOIN in Cosmetics*

by S. B. Mecca

CHEMICAL DIRECTOR, SCHUYLKILL CHEMICAL COMPANY, PHILADELPHIA, PA.

All of you, I am sure have heard of the maggot treatment of wounds. During the Civil War and the First World War it was observed that wounds which were infested with living maggots healed rapidly and those which were not infested healed much more slowly often becoming re-infected. This method of healing wounds became recognized in medical practice and was indeed extensively used up to the early 30's.

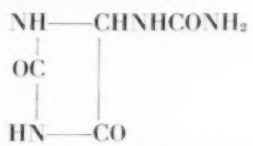
The effectiveness of maggot therapy was attributed theoretically to the fact that they would devour the necrotic tissue, thus cleaning the area and allowing uninterrupted healing to take place.

The reason for the therapeutic effectiveness of comfrey roots remained to be discovered by Macalister[15] in 1912. After preparing extractions from comfrey root, he noted a peculiar brilliant crystalline substance, which upon chemical analysis proved to be glyoxyldiureide (allantoin). He then prepared pure allantoin from uric acid and compared the healing properties of the synthetic allantoin with those of comfrey and found them to be the same.

Much later, in the 1930's Robinson observed that maggots excreted a peculiar crystalline substance and found this also to be allantoin. Investigations proved that the allantoin excreted by the maggots was to a great part responsible for the healing effect of this form of therapy.

The fact that allantoin was originally found in the foetal allantoic fluid gives it its name. It is found in wheat germ, rice polishings, young leaves of the sycamore (buttonwood), comfrey roots, the bark of the horse chestnut tree, in dog urine, and trace amounts in the human urine (larger quantities in pregnant urine). Allantoin is also found in the earthworm and as an organic constituent of many soils.

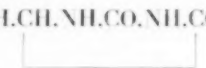
Allantoin is a uric acid derivative and is chemically known as the diureide of glyoxyllic acid . . . also 6-ureidohydantoin, glyoxyldiureide, and cordianine. Its early synthesis dates back to Woehler and Liebig (1838), Schliper (1848) and Neubauer (1856). Its structural formula can be written as follows:



Allantoin is produced by the alkaline oxidation of uric acid as well as by reacting glyoxylic acid with urea and also by heating urea with dichloracetic acid.

It is bland, stable, white, odorless and tasteless powder, soluble in 170 parts cold water and very soluble in hot water and in 500 parts alcohol. Soluble with decomposition in sodium and potassium hydroxide solutions, it is almost insoluble in ether and chloroform. The pH of a saturated aqueous solution (0.6 per cent) is approximately 6. Its molecular weight is 158.08.

Allantoin (dried over H_2SO_4) melts with decomposition at about 228° to 235° C (lower or higher depending on the method). It contains (dried over H_2SO_4) not less than 98.5 per cent of



It is amphoteric. Both sodium and potassium allantoinate as well as many other metal salts have been prepared and on the other hand allantoin nitrate has also been prepared.

That allantoin exhibits tautomeric properties is proven by the fact that optically active forms of allantoin have been prepared but are extremely unstable—passing with great ease into the racemic form. The *d*-allantoin has been prepared from calves urine and certain plants and the *l*-allantoin by the action of an enzyme from soya beans (allantoinase), on the racemic form of allantoin. The *d*-form ferments more rapidly and the *l*-form is more stable. The allantoin of commerce is the racemic form.

*Reprinted from Proceedings of the Scientific Section of the Toilet Goods Association, Inc., No. 23, May, 1955.

COURTESY JEAN NATE

A valuable cell-proliferant healing agent which stimulates healthy tissue formation might begin to describe glyoxyl diureide commonly referred to as allantoin. But it is also a chemical debrider of necrotic tissue and serves to "clean up" the areas where applied. When such an agent can further be described as bland, stable, non-toxic, soothing and non-irritating, it becomes a tool of more than casual interest to the dermatologist and cosmetic chemist.

Through the years scientific papers have appeared praising the many desirable therapeutic attributes of allantoin. The most outstanding quality of allantoin is its cell-proliferant action[11,5] which is responsible for its healing effect. This healing property[20,22] of allantoin has also been attributed to its cleansing action[12,19] . . . by this we mean the removal of necrotic tissue.[11] It has been called an effective chemical debrider[11,12,19,22] and Comunale[4] points out that a quicker natural debridement seems to occur when allantoin is applied. Gordon[5] sums this up by saying that allantoin has "no superior as stimulator of cell-proliferation and tissue growth" and that it induces "rapid granulation of areas as well as promoting phagocytosis."

Allantoin even induces healthy granulation[5,8,11,22,19,23] in areas which are ulcerative, indolent or suppurative. Stovin[22] goes further to say that allantoin is an efficient "reparative agent, and stimulates healthy granulation and epithelization."

In other words, when allantoin is applied to ulcers, wounds, cuts, lacerations, etc., it has the ability to remove the undesirable necrotic tissue, clean up the area, and then follow through by inducing healthy new tissue growth.

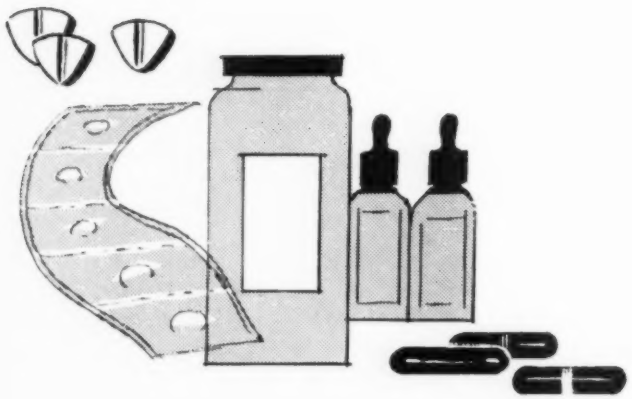
After conducting tests on coagulation time of blood, Bethune[2] found that "following allantoin irrigations, it fell from 2½ to ½ minute." This gives it a hemostatic quality which is very desirable. Neither does allantoin waste any time doing its job. It is fast acting.[5,14,23] Kaplan[11] writes, "The speed with which the necrotic base is converted into a granulating area is remarkable." Allantoin is reported as non-irritating[20] and safe.[12,19] It is odorless[11,12] and stainless.[12,19] As a matter of fact it has been termed "painless" in several papers.[8,11,12,19]

Another interesting and valuable action of allantoin is that it appears to "produce a medium apparently distinctly unfavorable to bacterial growth."[13] Berthelot and Bertrand[1] suspected this to be due to a local leucocytic effect and later Macalister[14] and co-workers definitely established this fact. Still later, Greenbaum[7] in his investigations says "We believe we have in a preliminary way demonstrated the fact that allantoin possesses leucocytic stimulating properties, particularly in stimulating healthy neutrophiles." All are agreed that the action is local at the site of the wound where allantoin is applied.

Many therapeutic indications have been reported[2,4,5,23] such as various types of slow-healing

(*Continued on page* 867)

Rutgers pharmaceutical conference



Several papers were presented to an audience numbering almost 500 at the Fourth Annual Rutgers Pharmaceutical Conference on March 11, with R. Raymond Ricciardi, chairman, Dr. John L. Voigt, vice-chairman and Louis E. Kazin, secretary. The slogan of the conference was "Progress Through Knowledge and Mutual Understanding" and its purpose was to present a national forum at which pharmacists, educators, manufacturers, journalists, retailers, hospital pharmacists and members of the allied health professions could explore, together with outstanding leaders in the field, those professional and economic developments affecting pharmacy and the public health and welfare.

General Problems of the Industry

John T. Connor, Vice-President and General Manager Merck-Sharp & Dohme International Division was chairman of the morning session. His introductory remarks touched upon the problems of the retail pharmacist, the wholesale druggist, the pharmaceutical manufacturer, Government regulatory agencies, the pharmacy school educator and the relationship with the general public. The consumer thinks his prescription items are over-priced while the manufacturer needs a price that will permit a fair profit to "continue to help support the intensive research program for the many medicines still undiscovered and needed so badly by so many suffering people . . . to continue to give productive employment to many thousands in drug stores, distributing organizations and production plants . . . to pay a reasonable return to those who invest money . . . to continue to give support through contributions of money and services to the educational institutions of pharmacy and medicine . . . and to continue to pay taxes to local, state and federal governments."

Retail and wholesale druggists have economic problems. Constantly rising costs have eaten further and further into profits, and at a time when costs are rising, many price levels for important products have been thrown into confusion by the attacks on fair trade in judicial, legislative and administrative circles.

"To name just one of the many problems at the manufacturing level, the polio vaccine situation has many interesting facets. The manufacturers had to commit themselves to an expensive production program long before the results of the large scale clinical tests were available. Now that the vaccine is a success, there are many other problems, the most obvious one being a rapid increase in supply to meet the public clamor for the product. More puzzling is the question of distribution channels. The manufacturers are doing all they can to distribute the product through regular commercial distribution channels, once their existing commitments to the Polio Foundation are fulfilled. All of the wisdom of Solomon, and the patience of Job, will be needed to strike a happy balance in the public interest which recognizes the equities of all concerned." The pharmacy schools are all too familiar

BLACK STAR PHOTO

with the plight of students in handling the increased tuition costs and the additional year for the five year course in some schools. The difficulties of the teachers and their inadequate salaries are of ever increasing concern. The schools themselves are experiencing the financial difficulties of higher operating costs, especially those with old facilities.

Even the Government agencies have their money problems. Witness the case of the F.D.A. and Department of Health, Education and Welfare officials who have called upon a group of prominent citizens for help when unable themselves to convince the Congress of the need they consider urgent for more funds to support wider inspection and other activities.

Problems of Education

Dr. Linwood F. Tice, Director of the Department of Pharmacy in the Philadelphia College of Pharmacy and Science and President of the American Association of Colleges of Pharmacy discussed the reasons behind the projected changes in the pharmacy curriculum.

The American Association of Colleges of Pharmacy, at the Meeting in Boston in August of 1954, changed its By-Laws by a two-thirds majority vote in such a way as to require a total of five years of college training for all students of pharmacy who graduate on or after April 1, 1965.

Aside from the obvious need for the extra time to provide prospective pharmacists adequate training in basic sciences, Dr. Tice emphasized the need for broad general education.

"This, then—a more broad and liberal training—is the primary objective of the advance in pharmaceutical education which we are planning and which we shall put into effect. It is our hope that the pharmacist of tomorrow will, in addition to his professional competence, be a man of educational stature so that his increasing opportunities can be met and his position in society be that which every professional person should enjoy. . . . The pharmacist, if he is to maintain his position, must not fall behind and must, at least in the area of general education, have a knowledge equivalent to those whom he serves and with whom he works professionally."

Commercial Development

Allan J. Greene, Director of Commercial Development, Charles Pfizer & Co., Inc., talked about "The Problems in Developing and Marketing New Pharmaceutical Products."

The urge to develop new and better products so man can live a healthier, longer life is the driving force behind the pharmaceutical manufacturing industry.

One of the first problems is trying to recognize the disease of man in order to determine what has to be done.

When market research reports indicate that a certain area of disease is significant as far as severity in numbers of people are concerned, the next steps that must be taken are to determine what causes this specific disease and how to treat it.

When a definite need for a particular drug is recognized, there are many things in the research stage which must be done. A screening program must be devised, and when a clue to activity is discovered, further research work is done in the laboratory.

After the best compound is selected, the various development departments—Pharmaceutical, Chemical, Biochemical and Research-collaborate in order to produce enough material so that clinical studies can be made. After clinical work has been carried out and if it indicates good results, the next stage and next problem faced by the pharmaceutical companies is the planning of production and marketing.

One of the big problems of the industry in production is product obsolescence. Intensive research by many companies will probably be going on in this particular area and management must decide at some point whether it will commit substantial amounts of capital for plant and equipment. Management must decide whether or not the product under consideration is the best one that can be found and that it will not be outmoded at an early date by a better product.

"In the legal or patent area of new products, the industry is faced with a very grave problem. At the present time, we at Pfizer are spending about seven million dollars annually in research with the expectation that when products, new processes and new procedures are developed from this research, we will be able to get protection through patents. This is a logical and justifiable expectation and is one of the foundations on which our system of free enterprise is based."

In the field of advertising and promotion of pharmaceutical products, there are many problems. Advertising and promotion are concerned primarily with the dissemination of information and keeping physicians and pharmacists informed on the advances being made in medicine today.

From a marketing standpoint, probably the most important method is detailing the doctor. More and more companies have bigger detail forces, introducing more and more products.

"The urge to develop and market new and better products is the driving force behind the pharmaceutical manufacturing industry today. It is the force which has taken the sulfas, the antibiotics, and the hormones out of the laboratory and made them available to the doctor on a quantity basis. Teamed with the resourcefulness and persistance of the medical research man and the professional craftsmanship of the pharmacist, it is the force which will some day make possible the conquest of cancer, the common cold, and many other diseases for which no drug has yet been found."

The Role of Government

Dr. Albert H. Holland, Jr., Medical Director of the Food and Drug Administration, in his talk "The Role of Government as it affects the Pharmaceutical Industry and Profession" covered two major points: the Durham-Humphrey Amendment and the problem of substitution.

The Durham-Humphrey Amendment, enacted in 1951, has been a subject of discussion and dissension. One of its chief objectives is to provide a basis of distinction between prescription and over-the-counter drugs. One of its chief requirements is the preservation of the integrity of the prescription legend. It places on the pharmacist the clear legal responsibility not to sell or otherwise dispense a prescription legend drug in the absence of a properly executed prescription. All the pharmacist has to do is to read the manufacturer's label on the drug package, and he can immediately determine whether or not a prescription is necessary. If it is, the law requires the manufacturer so to state. The words are, "Caution: Federal law prohibits dispensing without a prescription."

"Financial considerations regrettably seem to motivate the large majority of Durham-Humphrey violations. Ugly as it may be, it is here that the pharmacist relinquishes his professional status and degrading himself becomes just a dishonest merchant."

"There is another problem of growing magnitude with which your profession and the pharmaceutical industry must eventually come to grips. It is the pernicious practice of substitution. Several manufacturers estimate that they are losing as much as 20 per cent of their sales volume on some items because of it. Everyone recognizes and appreciates that the average pharmacy must be selective in its stocking. Few physicians object to a legitimate request from the pharmacist to dispense another brand because he temporarily does not have that which was prescribed. That is not the problem. This problem is one of outright dishonesty. Buying a cheaper, often illegal, imitation of a good brand product, and unbeknownst to the doctor or patient, dispensing it in lieu of the brand product prescribed and, of course, at the higher price. There is only one discernible reason for this blight. One word—money. This is a problem for pharmacy. It is, in fact, a refutation of the years of painstaking work, and effort which so many have given to establish pharmacy on a sound professional basis. You may be assured that the manufacturers will continue to devise and study ways and means of effectively combating the practice of substitution. Where mislabeling, misbranding and danger to health is involved, appropriate governmental action can be anticipated."

Centrallized Public Relations

G. F. Roll, public relations manager for Smith, Kline & French Laboratories, urged the industry to take concerted action in a public relations presentation to the general public to show the great service being done by the pharmaceutical industry.

In the warfare on disease—a warfare campaign which has spectacularly lengthened the human life span by a quarter century within two generations—the drug manufacturers have served as weapons developer, proving ground, quartermaster corps, and arm of supply. But, through research and support of research in laboratories of medical and pharmacy schools and hospitals, it can truly be said that the industry has played a central role in the greatest health revolution in history.

(Continued on page 834)

Packaging and Selling

The two Charles S. Welch Packaging Awards for 1954 were presented to Charles of the Ritz, Inc., and Dorothy Gray, Ltd., respectively, during the 20th annual convention of the Toilet Goods Association on May 11. The bronze plaques were presented by S. L. Mayham, executive vice-president of the Association.

Joseph Keho, president of Dorothy Gray, accepted the award for that firm's Figurine line of cologne, cream sachet, cream deodorant, hand lotion and combination of cologne and hand lotion. These packages, illustrated above, were judged the best among those which sell at $1 or less.

Richard Salomon, president of Charles of the Ritz, received that company's award for the Ishah line of perfume, toilet water and dusting powder. They were judged the best of those selling for more than $1.

The Ishah line was pictured in the March issue of DRUG & COSMETIC INDUSTRY, when it received the *Beauty Fashion* Award.

OWENS-ILLINOIS ASSURES YOU A

Co-ordinated Research

Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.

Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

The Right Container

Versatility of facilities and talents points to Owens-Illinois as your best source of supply for a wide range of specialized needs: Containers where beauty, utility and tradition are blended in the proportions required by different product classifications.

Petite Loveliness to

COMPLETE PACKAGING APPROACH

The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.

Needed Fitments

With emphasis on the word "needed," Owens-Illinois fitment specialists are keenly aware of sales benefits possible through use of fitments which are not "gadgets" but which basically increase consumer satisfaction with your product.

Modern Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

He-man Handiness...

Duraglas salesmaking packages can express the personality of any product

THERE'S NO DOUBT ABOUT IT, sales are made by the beauty and convenience of the package. It's the first impression the customer gets of your product.

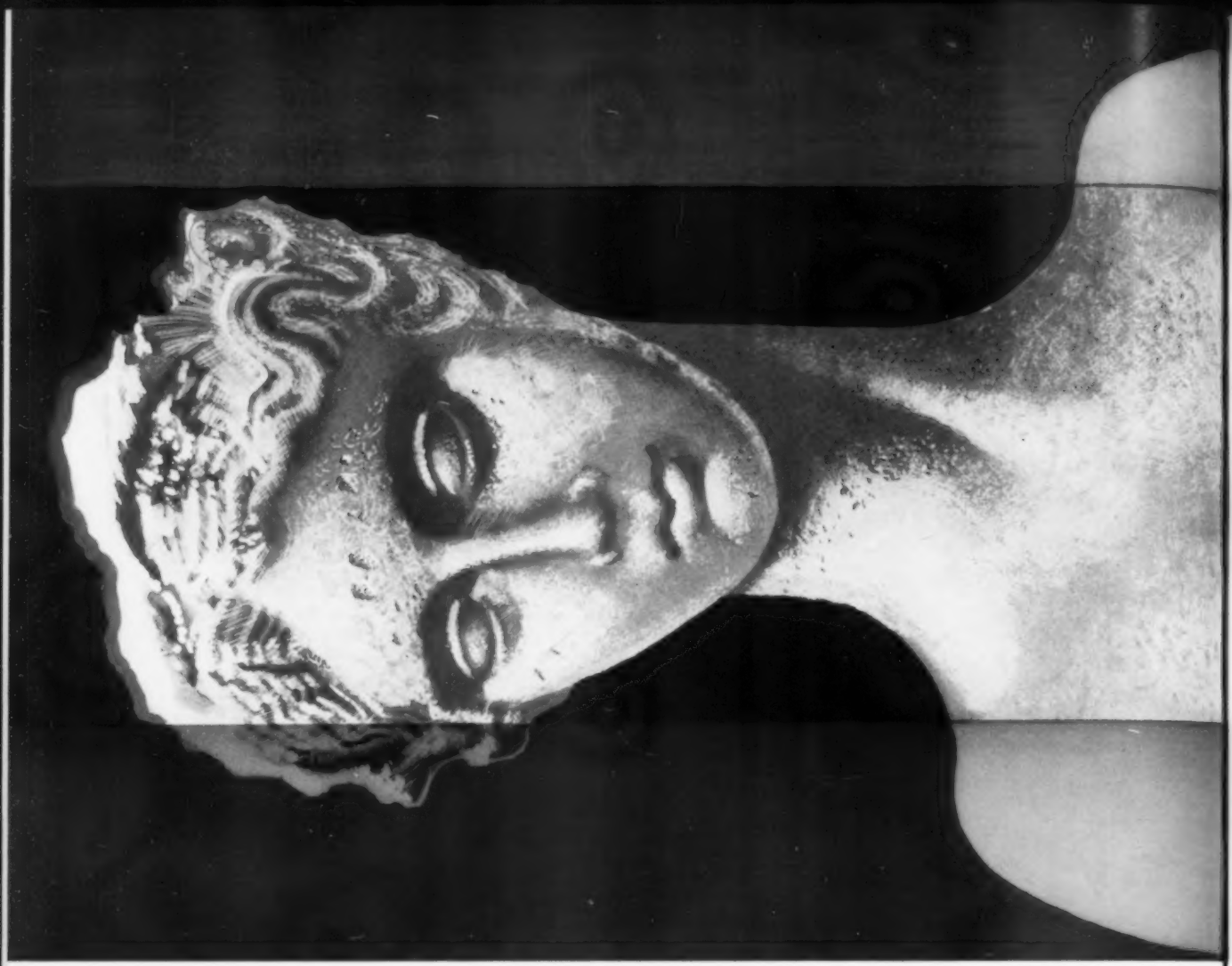
So at Owens-Illinois, SALESPACKAGING has been developed to its highest degree—by specialists in design, engineering and marketing.

The character of your product may call for especial beauty and grace in the container. Its use might be aided by the bottle's form or a special fitment.

So look to Owens-Illinois as a marketing-minded supplier of glass packages of all types, capacities and designs both stock and custom.

DURAGLAS CONTAINERS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO



Beauty needn't stop at the shoulder...

Now carry color over your entire tube at no extra cost . . .

An enticing new idea for those who package in tubes. Just as in a classic statue, beauty is something of the whole—so now, Sun Tube offers collapsible tubes that carry the color over the entire tube. Emphatically, an enticing idea for added attraction in your market.

Sun Tube
CORPORATION

SUN TUBE CORPORATION, HILLSIDE, NEW JERSEY, Waverly 3-0400

St. Louis 1, Missouri: Mervin Yates Co., Arcade Building
Cincinnati 8, Ohio: Ralph H. Asch, 3449 Custer Road
New Orleans 19, Louisiana: R. P. Anderson Co., 925 N. Solomon Pl.
Houston 19, Texas: R. P. Anderson Co., 5643 Overbrook Lane
Dallas 2, Texas: R. P. Anderson Co., 1122 Texas Bank Building
West Coast: Wm. J. Stoepker, 301 E. Colorado, Arcadia, California
Canada: Sun Tube Corp., 145 Spruce Street, Ottawa, Ontario
Mexico: Tubos de Estano, S. A. de C. V., 174 Oriente No. 267, Colonia Montezuma, Mexico, D. F.

Package merchandising wins markets for Acme Products

by Alan Berni
PRESIDENT, ALAN BERNI & ASSOCIATES, INC.

How does an unadvertised merchandise line achieve a healthy market in the face of "big name" competition?

That the principal answer is "astute package merchandising" is revealed in the experience of Acme Cotton Products, Inc., makers of an extensive line of "first aid essentials" for the proprietary and ethical drug trades.

"To succeed in your particularly tough field your products must have packaging that is as good if not better than that of nationally advertised competitors. And it must be packaging that inspires confidence—conveys the idea that your products more than meet all established standards."

These words summarize our approach to the development of a basic package design for the Acme line.

As a result of this firm packaging policy, Acme products are presented in packages that are distinctive and characterfull—packages that cannot be accused of just "aping" those of long-entrenched brands. And the company does not hesitate to avow that the new packages are a major influence in the acceptance of the Acme line in an increasing number of the country's major markets.

The need for a basic, flexible design is more readily appreciated when one considers that the Acme product family consists of 126 items—including assortments of gauze bandages, absorbent cotton, gauze pads, adhesive tapes, surgical plasters and other drug items.

The versatility of the trademark and design motifs is attested by their application to packages of various sizes and contours.

The new basic design is appropriately clinical in character and the generous use of white background creates that antiseptic quality which the public associates with such items. Panels for product description are of a soft blue-gray which serves to make the white lettering stand forth in bold relief. Individual product names have been executed in clear red. The use of the soft blue-gray in the packaging was inspired by the uniforms of the "Gray Ladies," that organization which unselfishly serves and assists in the care of the hospitalized.

The brand name has become an integral part of the tidy yet forceful trademark. The word "acme" forms the base of a triangle. A little above this "word base" is a two-line cross-bar pyramid which transforms the entire triangle into a giant "A."

It will be noticed that whether the container is round or square, small or large, tall or squat, the trademark and brand name is always prominant and the item contained therein boldly identified.

Some special device was needed, we felt, to distinguish the company's line of "Zip-Strips" from the regular adhesive bandages. We resolved the problem by em-

(Continued on page 834)

Cross Swing Sifters

SALES PACKAGES

Cross Swing Sifters — today's modern container — affords your package an all-round versatility which makes it stand out in competition and step out with greater sales.

Cross Swing Sifters are being used for cosmetics, foods, drugs, pharmaceuticals or any other product that can be dispensed through a shaker or sifter . . . Can we serve you?

MINIATURES

Now available with NEW plastic plug bottoms for easier filling. Cross round miniatures, an exact replica of your full size container, provides the answer for the perfect sample package. Both full size and samplers can be filled with any standard filling equipment. Ask for a representative to call, or write for details and samples.

CROSS PAPER PRODUCTS CORP.

4377 Bronx Boulevard New York 66, New York

CREATORS • MANUFACTURERS OF INDIVIDUALIZED ROUND AND OVAL PACKAGES

Winning Packages . . .

new trend in design

Ciba Drug Mailer, made by Walter P. Miller Co., for Ciba Pharmaceutical Products. The box lid design is a strong selling aid.

That package designers are becoming more aware of the need for packages which sell themselves was apparent in the 5th Annual Packaging Competition early this month at Atlantic City. This year's contest winners stood out as "self-service" packages, since the judges picked more hard-selling packages and fewer unusual surface designs. The multiple-sales-unit packages with family designs and those packages featuring brand identification, package inserts and easy-to-read legends describing the contents were also singled out as top contestants.

This change of emphasis from the unique and fancy package to that of utility has been brought about in part by the influence of television advertising and the increasing attention that is being paid to self-service supermarkets and other self-selection stores.

There were 81 package winners in all. These went on display from June 2 to 5, during the convention of the National Paper Box Manufacturers' Association, which sponsored the contest. Fourteen of these 81, which were all chosen from about 2,000 entries, represented companies in the drug and cosmetic industries. Each

Coricidin Drug Box, made by Kiernan-Hughes Co. of Schering Corp. Note the unusual box shape and the attractive animal design. Prominent slogan indicates the type of medication inside.

winner had to pass a series of tests covering superiority of end use, design and construction features.

Interesting features of these drug and cosmetic packages ranged from the extremely elegant mailing box of Schering's Coricidin to Avon's smartly decorated Black Sheep Men's Toiletries box.

The Coricidin box (Honorable Mention) attracts attention by its unusual elongate shape and is highlighted by the slogan, "Before a 'sniff' becomes a 'sniffle' Coricidin Medlets." The package is at once recognized as containing children's medicine through the use of contrasting colors of yellow, black, red and white—in addition to the artistic animal drawing reproductions. This package is certainly a far cry from the staid pharmaceutical cartons which used to be commonplace.

Rubinstein's Powder and Cologne Box, made by Geo. H. Snyder, Inc., for Helena Rubinstein. Various soft colors on the boxes help distinguish the products from one another.

Burroughs Wellcome Mailer, made by Kiernan-Hughes for Burroughs Wellcome Co. This mailer is given a professional appearance through the brief inscription on the cover.

If your product can be sprayed...

CONTINENTAL HAS AN AEROSOL CAN TAILOR-MADE FOR YOU

DOME TOP — Domes attached and equipped with standard 1" curled opening for all popular valves. Regular (12 oz.) or Midget (6 oz.).

CONCAVE TOP—Tops furnished loose and perforated with hole-punch for specified aerosol valves. Regular (12 oz.).

DOME TOP — Domes furnished loose and perforated with hole-punch for specified aerosol valves. Regular (12 oz.) or Midget (6 oz.).

More than 60 sprayable non-food products are now sold in Continental's three styles of aerosol cans. One of these containers will fit the exact needs of your product too. As part of Continental's Tailor-Made Package Service, we provide on-the-dot deliveries of all the cans you can use. Individualized engineering and master lithography are available... and so are contacts with valve suppliers and commercial fillers. It'll be a pleasure to advise you in any phase of your packaging operations. Why not call Continental at your convenience?

CONTINENTAL CAN COMPANY

Eastern Div.: 100 E. 42nd St., New York 17
Central Div.: 135 So. La Salle St., Chicago 3
Pacific Div.: Russ Building, San Francisco 4

Ciba's Pyribenzamine drug mailer (Second Award) is equally attractive. On one corner of the box lid there is a short message describing the product, while over the remaining portion of the cover sources of allergy pictured in geometric squares—strawberries, dust, milk, cat fur—so that any one glancing at the package knows immediately what the product is and what it does.

The oval-shaped box of Avon's Black Sheep Men's Toiletries is smartly decorated with the central theme of illustration tying in with the black sheep name and inner container. A die-cut platform holds the products securely and displays them to best advantage when the package is opened.

Helena Rubinstein's Beauty Course Box (Honorable Mention) is compactly arranged and successfully presents the idea of a reliable beauty course through its professional appearance.

The Perfumes Purse Box (Honorable Mention) of Mary Chess looks like a fine evening purse. Its base and lid are covered in a heavy gold-embossed paper rimmed and hinged with a gold metallic frame.

First Awards

Class A. *General Superiority According to End Use.*

Privine Drug Box, by Walter P. Miller Co., Inc., for Ciba Pharmaceutical Products, Inc.

Toiletries Gift Box, by Oscar Trilsch Co., for Mary Chess, Inc.

Pot Pouri Soap Box, by Pohlig Brothers, Inc., for Claire Burke.

Class B. *Best Surface Design and Execution.*

Old Spice Powder Box, by F. N. Burt Co., for Shulton, Inc.

Second Awards

Class A. *General Superiority According to End Use.*

Ciba Pharmaceutical Specialties Box, by Walter P. Miller Co., Inc.

Rubinstein's Powder and Cologne Boxes, by George H. Snyder, Inc., for Helena Rubinstein, Inc.

Ciba Drug Mailer, by Walter P. Miller Co., for Ciba Pharmaceutical Products, Inc.

Class C. *Superiority of Construction.*

Privine Drug Box, by Walter P. Miller Co., Inc., for Ciba Pharmaceutical Products, Inc.

Honorable Mentions

Class A. *General Superiority According to End Use.*

Coricidin Drug Box, by Kiernan-Hughes Co., for Schering Corp.

Mennen Baby Gift Box, by Niagara Box Factory, for the Mennen Co.

Burroughs Wellcome Mailer, by Kiernan-Hughes, for Burroughs Wellcome & Co.

Class C. *Superiority of Construction.*

Perfumes Purse Box, by Oscar Trilsch Co., for Mary Chess, Inc.

Rubinstein's Beauty Course Box, by George H. Snyder, Inc., for Helena Rubinstein, Inc.

Class D. *Best Display Box.*

Black Sheep Men's Toiletries Box, by F. N. Burt Co., Inc., for Avon Products, Inc.

Mennen Baby Gift Box which won Honorable Mention in Cosmetics. The attractive book design of the package makes an effective presentation box.

Rubinstein's Beauty Course Box. Inside the box is a pink-lined die cut platform insert with tray components to lock the products in position.

Avon's Black Sheep Men's Toiletries Box. The decoration on the outside ties in closely with the men's toiletries inside the package.

Perfumes Purse Box of Mary Chess. This gift package is constructed so that it will have a reuse value as an evening purse when the interior platform is removed.

control's the thing...

WITH ANCHOR HOCKING, TOO

Top-flight golfers win the big prize money because they have consistent *control* even when the pressure is on. And *control* is important, too, in the manufacture of Anchor Hocking quality products.

From the selection of all raw materials to the final production line inspection, Anchor Hocking employs literally hundreds of exacting *controls,* tests and checks involving many scientific testing devices. Although each factory maintains a laboratory of its own for quality control purposes, central laboratories at Lancaster, Ohio, serve as a control center for all—veritable watchdogs that make certain Anchor Hocking products comply with their rigid specifications.

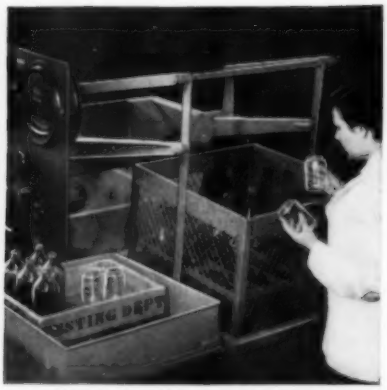
Eleven strategically located factories and sales-service representatives in 25 principal cities in the U. S. and Canada await the opportunity to serve you with controlled high quality Anchor Hocking products.

Anchorglass® Containers are uniformly strong, tough, dependable—high in chemical durability, accurate in dimensions, capacity and finish . . . a result of exacting quality controls.

50th Anniversary

A sampling rod collects samples from varying depths throughout incoming loads of raw materials . . . permits reliable analysis for uniformity and quality.

Cut sections from sample containers are regularly analyzed in a seed counter . . . another quality control for dependable Anchorglass containers.



At regular intervals container samples from production are tested to determine that they will withstand normal thermal shocks encountered in commercial packing.

ANCHOR HOCKING GLASS CORPORATION

GENERAL OFFICES — LANCASTER, OHIO

Anchorglass Containers, Anchor Metal and Plastic Closures, Anchor Sealing Machines, Cartons and Package Engineering Service... for Packers, Manufacturers, Bottlers of Foods, Drugs, Household Chemicals, Cosmetics, Toiletries, Beverages, Beers, Ales, Wines and Liquors.

A BETTER DROPPING PART MAKES A BETTER PRODUCT

To Be SURE Your Liquid Preparation Can Be Properly Dispensed

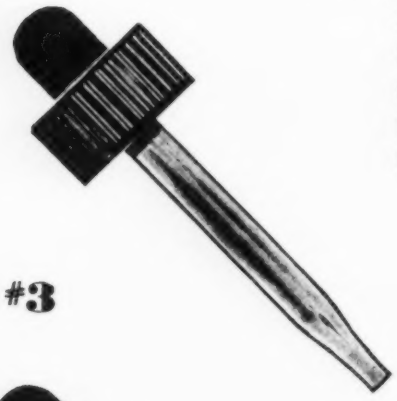
SPECIFY

New Perfection

DROPPING PARTS

#1

#2



#3

#4

Many a fine product has been rejected by the public simply because some seemingly small detail was below standard. The dropping part can be such a detail—an apparently simple device, yet vital to the user's satisfaction.

Since 1931, when Pennsylvania Glass originated the screw-cap dropping part, we have specialized in this important dispensing unit. This advantage in experience and specialization has made NEW PERFECTION Dropping Parts everything their name implies. Longer experience and undivided attention to one product have resulted in superior quality and reliable performance. To be sure of the best—specify NEW PERFECTION Dropping Parts.

We can supply various colors of bulbs in natural rubber or in our special oil-resisting Amekine compound, caps of plastic or metal in many sizes and colors, and various types of dropper glasses in any length with calibration in any color or plain. New Perfection dropping parts will fit your own bottles, or can be supplied in combination with our Modernistic bottles in Amber, Blue, Green or Clear glass. Sizes: 2cc, ⅛, ¼, ½, 1 and 2 oz.

Write for Samples and Quotations

PENNSYLVANIA
GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA. U.S.A.

Maybe your carton needs this "Midas touch"

How Gair Package Analysis* diagnoses cartoning problems

Maybe the "Midas touch" of Gair-Reynolds exclusive gold foil-laminated board is just what the doctor ordered for your carton.

Or maybe not! The white crispness of clay-coated stock . . . the transparency of Plastafol . . . the extra protection of another Gair carton material might sell your product faster.

Point is, Gair Package Analysis gets rid of the "maybe". This unique service uncovers your basic packaging needs, relates them to your marketing and shipping patterns. Then Gair Creative Engineering studies these facts, comes up with the carton material, the structural and graphic designs, the printing and production techniques that will make your carton a best-seller in today's fast-moving market.

• • •

**Gair Package Analysis* is a service designed to blueprint a successful carton for your product. Your nearest Gair representative will be glad to give you the full story. No obligation, naturally.

SINCE 1864

GAIR

ACM

Creative Engineering in Packaging

ROBERT GAIR COMPANY, INC.
155 EAST 44TH STREET • NEW YORK 17, N.Y.

FOLDING CARTONS
SHIPPING CONTAINERS • PAPERBOARD

the case for quality

Consumer acceptance permits no compromise with quality. That's why at Plume & Atwood all lipstick containers, whether standard type or your own distinctive design, are made to one undeviating specification — QUALITY.

P & A Standard Containers

STYLES: Full Dome Top
Semi-Dome Top
Flat Top

TYPES: Free Wheeling, with .477 or .500 cups
Swivel, with .477 or .500 cups
Push-Up, with .477 or .500 cups

FINISHES: Polished and lacquered,
Embossed, Enameled,
Banded, Imprinted, etc.

Call or write us for all your requirements. We have the experience and equipment unequalled in the trade.

We're moving March 30th to our NEW million-dollar plant in THOMASTON, Conn.!

P&A

A PANDA PRODUCT

THE PLUME & ATWOOD MFG. CO.

THOMASTON, CONN. N. Y. Office: 220 Broadway

Packaging and Selling

The Busy Package

Today's package designer must be a pretty agile fellow. As a matter of fact in creating and designing a new package from scratch, there are so many complicating factors that he must have to consider that it is becoming increasingly doubtful whether one man, no matter how brilliant or creative, can work alone in a vacuum. More and more, he will have to consult such departmental executives as the sales manager, the advertising manager, the purchasing agent and the production manager.

In package competition for the favor of the consumer, convenience in use and reuse is essential. The package must be easy to see and to pick up in impulse buying, easy to open and to re-seal, easy to store in the medicine chest, closet or kitchen shelf. It must be attractive, safe in its sealing quality and easy to re-use throughout its life.

From the retailer's viewpoint, the package must have competitive shelf appeal, it must be easy to store, or easy to place upon the shelf and meet a number of competitive factors that will vary in such stores as a department store, a variety store, a drug store or a super-market. Those are the consultation problems with the sales manager.

The advertising manager also has his definite problems in package design. For one thing, the type of media such as television, class magazine with fine paper or country newspapers will have a decided effect on the character and the legibility of the label and the appearance of the package. If color is used in either magazines or television a new serious problem enters in.

Undoubtedly, the Production Manager will have a great many things to say about the size and shape of the package as it goes through his filling, labeling and other packaging machines. With the oncoming of automation, new factory problems will be imposed upon the package designer.

Somewhere between all these conflicting interests, a package must emerge that is efficient in the factory, specifically suitable for the product and convenient for the consumer and with every possible competitive quality on the retail shelf and in the consumer's hands. When you think over all these problems, which must be faced, it does seem rather remarkable that so many beautiful, convenient and successful packages are produced each year.

Package Automation

Automation is the intriguing subject of today. And almost everywhere you turn, some great authority is pontificating on this subject. Almost all of these articles and speeches are directed toward proving to labor, that at least in the long run, automation will increase employment and not put people out of work.

We think that packaging and package material handling will be effected enormously by automation in the near future. It may well be that within a comparatively short time the package designer will be thinking as much of automation as he is of any other packaging requirement.

After all, if self-service and the dispensing machine is the big thing in retail mechanization today, there is a long, tremendous and inefficient gap between the automatic production line in the factory and the actual self-service at the point of sale on a super market display stand. A large, disorderly, costly number of operations happen to the package on its journey between these two points.

Advertising and Research

Colgate-Palmolive stockholders, at their annual meeting recently, heard that because an unnamed competitor has entered the tooth paste field with an advertising and promotion budget of 15 to 20 million dollars for the year, that the company would meet this competition with the biggest appropriation in its history.

We do not know why Mr. Little was so coy about naming this competitor. Certainly, one of the obvious things that an advertising expenditure of the colossal amount of 15 to 20 million dollars should produce is to easily identify this other major soap company.

This industry, in the last several years, has many times seen advertising used as a violent force by a company with a new product or a new theme, to force its way abruptly into a highly competitive branch of the industry. This condition applied last year in the lipstick market, when there was a three-cornered fight involving many millions of dollars spent purely for competitive purposes, with no hope of expanding the market.

We don't know what all these millions of dollars invested in tooth paste can mean for this industry. Certainly, the succession of themes, gimmicks and new therapeutic claims which have brought about these colossal advertising campaigns have at least accomplished one purpose, and that is in creating a substantial and increasing degree of brand disloyalty and a tongue-in-the-cheek attitude toward a great deal of advertising by this industry.

We also don't know whether it is good economics to spend what will probably be well over 50 million dollars to advertise a single product such as tooth paste.

Research has a new ally in these multi-million dollars being spent in advertising. On the positive side, it can be said that no matter how saturated a market is from the consumer's viewpoint, and no matter how filled the competitive field is with established and traditional brands, that multiple million dollar advertising is justified to introduce to the public quickly and efficiently, a step forward in the functional value of a particular product.

package her

on a full-time basis

We agree with the Fragrance Foundation. Don't let perfume be a once-a-day thought.
Make the lady's allure and your profit an all-day proposition! You can do it with richer-looking, more distinctive flaconettes.
A lovely, fashionable metal purser stimulates her pride . . . she'll have it in view and *in use*
at every turn! Scovill provides caps or complete bottle casings of polished brass or other metals . . . to meet
any specifications. Talk over ideas with a Scovill man. He can help you create a prestige package certain to reflect in sales.
Scovill Manufacturing Co., Drug and Cosmetic Container Division, 99 Mill St., Waterbury, Connecticut.

It can also be observed that we are getting perilously near a point where research may be of little, or at least highly diminished value, unless the organization conducting the research has also at its disposal a great many millions of dollars to spend for advertising in a hurry.

Yardley's New Line

One of the interesting developments of the year in cosmetics has been the introduction by Yardley of its new treatment line. This new line consists of sixteen products, which include eight make-up items, seven treatment items and an anti-perspirant. Prices for these products run from $1.25 to $2.00 and "Captive Beauty" a liquid emollient, which is said to be doing very well at $3.00 and $5.00 and Vitavym, a vitamin cream at $3.00 and $5.00.

The introduction of this line by Yardley is interesting because it marks a new step in Yardley's sales methods and a new development in Yardley's distribution.

Yardley is one of the few cosmetic companies in the higher price field which has had a well defined and a consistent sales and distribution policy over the last 20 years. This policy has been founded on a refusal to enter into many of the trade practices which are an essential and a basic part of the department store operation for cosmetics. This has meant a refusal to make use of the manufacturer paid demonstrator and refusal to pay a department store P.M.'s and in fact, a refusal to accept pretty much all of the trade practices which makes business with a department store a hazardous operation for many cosmetic manufacturers and which, to an alarming extent, has lead to many a financial net loss.

Unfortunately, the result of this firm and ethical policy on the part of Yardley has reduced their department store business to a small percentage of the total sales. Since Yardley's products do not lend themselves to mass distribution because of the extent of the Yardley line, the character of the products and the price, Yardley has been forced to seek a middle position in distribution between the department store and mass distribution. In the last few years, this fact has put Yardley in the position of finding itself right in the middle of a pincers movement.

We don't know if Yardley is coming to the conclusion that in all cosmetic history no company has been able to continue in this middle position. Cosmetic companies have attained a success either on the basis of a well defined selected class distribution, which must include the department store as a primary factor, or they have moved over entirely into mass distribution which includes all drug stores and variety stores and now includes some super markets.

So far, Yardley's new line has been introduced in leading department stores in ten major cities and reports are that sales are excellent, preceding any advertising. Yardley now has one of the largest national advertising campaigns of any cosmetic manufacturer in the class field for its established products. It is interesting to observe, so far as this treatment line goes, on which no advertising has as yet appeared, how favorably sales can develop in these ten leading department stores. Now that Yardley has secured the full cooperation of the department stores for the first time, and is participating in the store's own ability to sell a product for which the store believes it has a favorable basis for sales cooperation, they are experiencing a new brand of marketing operation.

If, as a result of their new treatment and make-up line, which has apparently been specifically designed for department store operation, Yardley acquires a new position of strength in department stores for all of Yardley's products, then this company has found a way to again fortify its position of marketing leadership in the field of class distribution.

Stifling Promotions

Safeway Stores, Inc., have established a national reputation in marketing circles during the last few years because of their protests against excessive promotions. In a sense, the protest of a grocery super market against promotions has been something like the man biting the dog. Nevertheless, in several letters and statements, Safeway executives have presented a penetrating analysis showing the uneconomic effect of many of the promotions that are offered to their stores.

The Safeway President has just recently protested that the labor alone for the handling of the avalanche of coupons is becoming an increasingly important cost item. He said "We have adopted every efficient mechanical means we have been able to uncover to aid us in counting the flood of coupons which brand promoters are forcing upon the public. Even though we count the majority of the coupons mechanically, they must first be sorted by hand. Further, the whole process in handling coupons requires the close attention of supervisory personnel and executive time which should be spent in more productive channels. And the operation occupies valuable space that should be put to better use.

According to the Safeway President, "Food retailers reap no benefits from this coupon activity of the brand promoters."

"In a recent four weeks' test in two representative zones, it was shown that Safeway must sort, count, handle and present to brand promoters nearly 40 million coupons annually."

Based upon its own volume, Safeway estimates that close to a billion coupons pass through retailers' hands each year. These billion coupons, according to the chain, "represent price cuts by brand promoters who use the coupons as a dodge to lower the actual price, while at the same time they attempt to maintain a published but fictitious price. They are nothing more than an attempt to beat economics."

Competition for Shelf Position

"Food Town Study" is a detailed study of grocery store operation just released by Progressive Grocer. This is an excellent study for anyone in this industry who wants to do business in a grocery store.

For instance, the ten top gross profit producers by product groups are: meat, produce, crackers and cookies, coffee, bread, eggs, bulk cheese, frozen vegetables, candy, and soft drinks, in that order.

The fastest selling items in packages sold per store per week are soft drinks, 4,972; bread, 3,637; baby foods, 3,257; crackers and cookies, 3,243; toilet tissue, 3,098; soaps, 2,743; frozen orange juice, 2,410; cheese, 2,268; gelatin and puddings, 2,237; packaged soaps and detergents, 2,172; and cold cereals 1,950.

This will help, with a little pencil work, to decide how long your product will hold a shelf position in the super-market.

Growth for Pharmaceuticals

It has always been a favorite subject of ours to speculate on the potentials for growth in the pharmaceutical industry. We have long felt that a leading pharmaceutical manufacturer has as large an opportunity for diversification into industrial markets as Du Pont, Union Carbide, Monsanto or any of the other great chemical companies had during the period of their vast growth. We have seen the leading pharmaceutical companies emerge from the substantial but narrow field of human health into animal health, plant health and nutrition. But over and beyond that, we have seen the application of the peculiar skill in research of the pharmaceutical industry applied to many other industries where moulds or fungus, bacteria or viruses are a problem.

We read recently that a chemical company has been organized to specialize in the textile industry for control of many problems that arise through moulds, funguses and bacteria. We don't know just what economic importance to the textile industry this is, but it seems to us worthy of a little market research by the pharmaceutical industry.

Advertising in a Saturated Market

Anyone would think that the expenditure of many millions of dollars for a single product would, to some degree, increase consumption of that product. Last year, the three dominant brands for lipsticks each spent up to 50 per cent of sales on advertising, which amounted to a good substantial 15 million dollars or more.

For this reason, we were rather intrigued to pick up the 1955 consumer analysis just issued by the Seattle Times to find that out of 167,982 buyers, 90.2 per cent are buying lipsticks as of now; whereas 90.4 per cent bought lipsticks in 1954.

We hastily checked a few other cities in which these thoroughly reliable consumer panels have been made, and found that there has been an actual decline in as many cities as there has been an increase.

Just what is advertising supposed to do?

Retail Trends

It is interesting to read the speeches of various leading retail executives at conventions because these speeches are probably the best index of future retail thinking available.

One theme that seems to be appearing more and more frequently in these talks is the demand that the manufacturer furnish to the retailer sufficient market testing at the time he submits a new product.

It would seem that the retailer is becoming more and more conscious of the value of market research. What the retailer would like, before he invests his capital in a new product or gives it valuable counter space or any other form of promotion help, seems to be some market testing on consumer acceptance of the new product and some market testing on the package, particularly from the viewpoint of display value and also in the sales ratio of various package sizes.

Detroit

MT = 56.5 (55) = +1.5;
VN-Plus 8; TP-.54 (.18)

This isn't a mathematcial formula of some abstract reaction in physics; it is simply the way Woman's Wear expresses the weather conditions as a basis for reporting department store sales. This formula means:—a mean temperature of 56.5 degrees as compared with a mean temperature of 55 degrees last year, is 1.5 degrees warmer. The Variance from the Normal is plus eight and the total precipitation is .54 as compared to .18 last year.

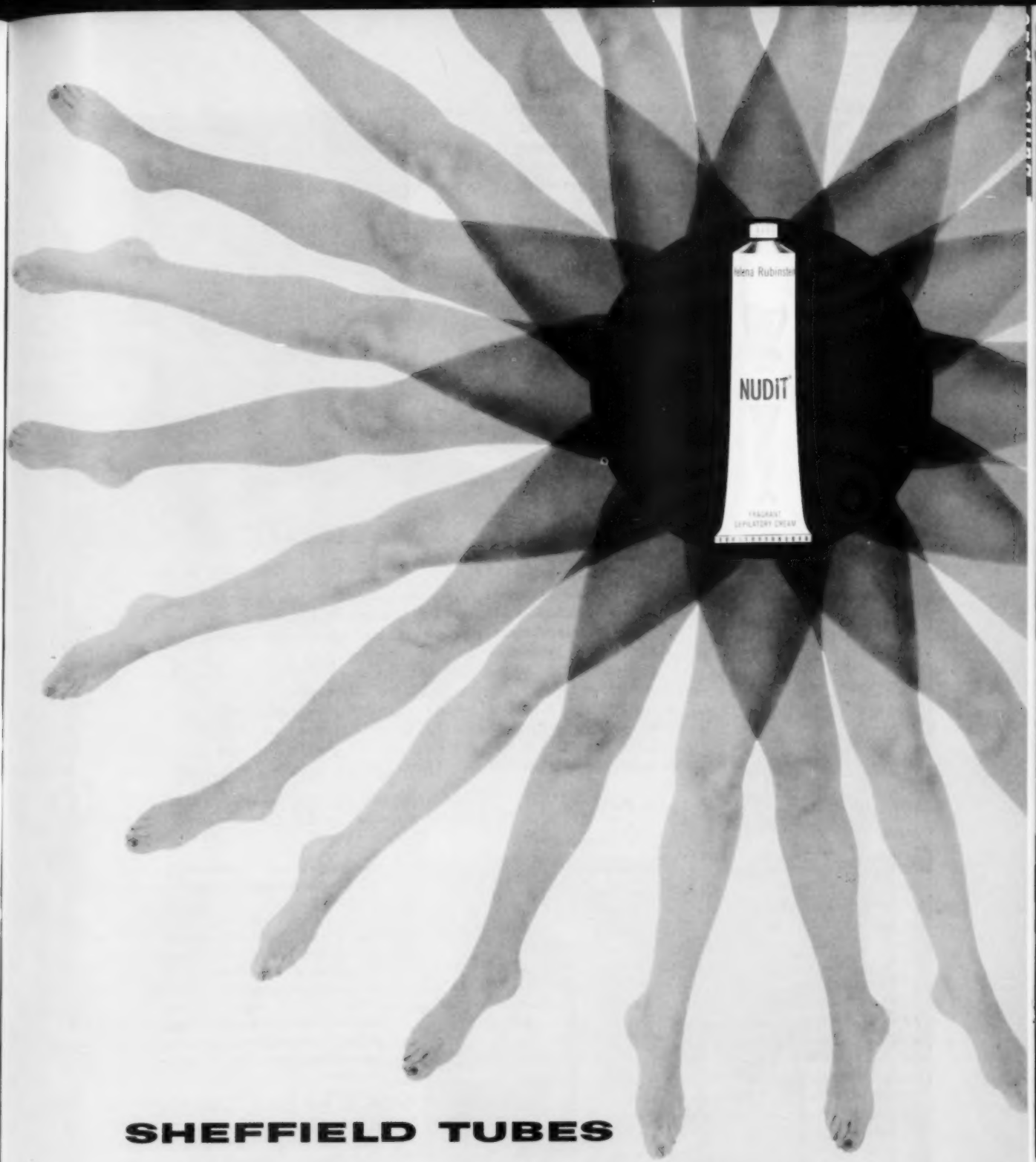
Salesman or Advertising

The forces which enter into the success which any company may have in marketing its products could be a fascinating study for some business college.

It seems to us that in the last several years there has been a strong inclination to favor the mass advertising as a pre-dominant force and to place other marketing instruments in a lesser position. This opinion seems to have been greatly fortified by the arrival of television as a powerful mass media. However, in the last few months, quite a considerable number of important marketing executives from various fields have been stressing the essential importance of point-of-sale activity. Just recently in a speech at the Grocery Manufacturers of America, Inc., Arthur C. Nielsen had this to say:

"The efforts of your salesmen comprise only one of two major forces which combine to move your goods to the consumer. The second of these forces is advertising. While a majority of this audience may be more involved, personally, with sales operations than with advertising, you appreciate the fact that advertising exerts tremendous power in the movement of your goods. There is no point in debating which of the two forces is more important. In the operation of most of your companies, both are essential. And both involve large expenditures from which you must extract every possible value if you want to earn maximum net profits."

As part of an investigation into these two forces it would be more than interesting to analyze the way in which the big dominant national brands vary in sales from state to state, or city to city and from store to store, even though their national advertising may be evenly and universally applied. When this substantial variation is analyzed the fault may lie in the individual salesman, in some variation in buying motives in the



SHEFFIELD TUBES

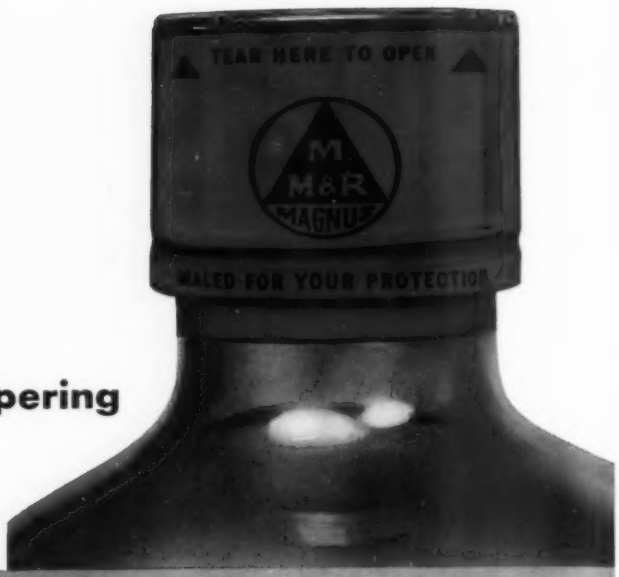
CONGRATULATES HELENA RUBINSTEIN, FAMOUS BEAUTY AUTHORITY

who has simplified the leg care of lovely women everywhere with her sensational, new cream depilatory... Nudit. Of course she put her revolutionary depilatory in the most modern containers available... Sheffield Tubes. Here's a fragrant product that gives skin a satin finish, packaged in collapsible tubes that are indispensable at home or for travel. Your product will go farther with more people in Sheffield Process collapsible tubes, perfectly engineered for convenience, perfectly designed to attract attention.

THE SHEFFIELD TUBE CORPORATION, **Home Offices: New London, Connecticut / Sales Offices: New York • Chicago • Los Angeles**

DU PONT
CEL-O-SEAL
REG. U. S. PAT. OFF.
BANDS

- **assure quality and purity**
- **prevent substitution, tampering**
- **highlight trade-marks, brand names**



"For 60 years MM&R's reputation—as well as that of our customers—has depended upon the quality and purity of the essential oils, concentrated flavors, perfume oils and related materials packaged under our Label, Seal & Guarantee.

"Our guarantee to the customer that he receives these delicate products exactly as they are prepared is the tamperproof Du Pont 'Cel-O-Seal' band on each bottle. In addition to doing such an effective job of protecting the product, the band also highlights our world-famous trade-mark.

"We are proud of our products and the quality tradition behind the MM&R name. With 'Cel-O-Seal' we are certain of safeguarding both."

Joseph Baird Magnus, *Vice President*,
Magnus, Mabee & Reynard, Inc.

Decorative and functional Du Pont "Cel-O-Seal" bands will work for your package, too. They hold closures tight, guard against tampering and spillage, inspire consumer confidence. Bands are custom-designed to complement *your* packaging needs. (They can be hand- or machine-applied.)

FREE PACKAGING SERVICE: See what "Cel-O-Seal" can do for *your* package. Send us a labeled container. Our packaging specialists will band it, return it for your inspection. No charge, no obligation. Write: E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Section, 10424-I Nemours Bldg., Wilmington 98, Del. "Cel-O-Seal" cellulose bands are also sold by Armstrong Cork Company, Lancaster, Pa.

DU PONT CEL-O-SEAL BANDS
REG. U.S. PAT. OFF.

DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

community or in the attitudes of the retailer toward the company and the product.

Here is an interesting variation which appeared in the recent consumer analysis of the McClatchy Newspapers in the three California cities. Here's the way the leading lipsticks vary in sales in these cities.

Lipstick Sales

METROPOLITAN SACRAMENTO	
Revlon	26.2 per cent
Hazel Bishop	16.4 per cent
METROPOLITAN FRESNO	
Hazel Bishop	28.6 per cent
Revlon	22.5 per cent
GREATER MODESTO	
Hazel Bishop	28.4 per cent
Revlon	27.2 per cent

Pharmaceutical Taste

Taste is becoming as important as packaging in the pharmaceutical industry. Anyone who follows the description of new products as they are announced by the industry must be impressed with the frequency with which flavor is stressed and even more than that by the wide variety of new and imaginative flavor blends which are used in this industry.

The flavor industry has very largely been a static industry over the years. Such basic flavors as vanilla, chocolate, coffee, strawberry and peppermint predominate and control the larger part of the flavoring of such products as candy, ice cream, soft drinks, primary market of the flavor industries. In the case of pharmaceuticals, however, the sky seems to be the limit and it does not at all seem strange, for instance, to have an antibiotic with a custard flavor or to read that a new product of Parke-Davis, i.e. Milontin, an anti-convulsant, has a pleasant tasting anise-pineapple flavor.

Toiletries in Super-Markets

In this department of our last issue, we commented on the intriguing fact that in three California cities, there was indication of decline in the number of women shopping in grocery stores for toiletries and cosmetics. These cities were Sacramento, Fresno and Modesto, and the survey was made by the Bee Newspapers of these cities.

Now, we have the survey of the Seattle Times and find reported here that the number of families buying toiletries or cosmetics in grocery stores amounted to 50.1 per cent during 1955 and 55.6 per cent in 1954.

We don't offer this as a conclusion, nor do we say it is a trend. We merely say it is interesting.

We also noted in a recent report that the Progressive Grocer, a leading trade magazine of the food industry, finds in a survey that the most profitable products per square foot in a grocery store are the drug and toiletries products. The Progressive Grocer then theorizes that since competition is becoming so aggressive and so vicious in foods, the grocery stores with a substantial toiletry business can afford to use this high margin profit to cut prices on food products to fortify their position.

It is precisely the other side of the coin that we have long been afraid of. Even with the most successful operation, we doubt whether the products of this trade amount to more than five per cent of the super market's sales volume. The Rack, or the amount of space devoted to these products, makes it a minor department in store space as well as volume. Even with a profit twice as big as food products, we don't think that any grocery store will make enough on toiletries to give them much of an edge in price cutting food.

On the other hand, if anything happens to fair trade, or unless it is rigidly enforced during the next couple of years, we think that some of the toughest and most frenzied lost leader battles in the history of our industry will take place with certain leading toiletry brands in super market grocery chains.

Coty's Lipstick

This year, it's Coty for lipsticks. Reports are that during this first quarter, Coty sold more lipsticks than they had ever before sold during an entire year. Almost all of these sales were made preceding the appearance of any consumer advertising.

This is a lipstick with that arresting theme "Wake Up Beautiful," for which Coty is suing Revlon for infringement.

Since there had certainly been no increase in consumption of the lipstick, in spite of the multi-million dollars spent on it in advertising, this means that Coty's lipstick steam roller is taking all of this new business away from somebody else. Informed guesses are that the last two mass marketers to enter the industry are the unwilling donors.

Testimonials

Do people believe in testimonials? Yes, they do and no, they don't. They don't believe that the famous football coach smokes such and such a brand of cigarette even though he testifies to this in color pages in all the national magazines. Nor do they believe that Lady So-and-So, international hostess, knocks off two bottles of beer with her meals. Still again, maybe they do believe this.

All these seeming contradictions were brought out by an organization called Endorsement, Inc., which we may legitimately suspect would like to have the proper feeling about advertising endorsements. This company recently set up another company called Social Research, Inc., in Chicago, to arrive at the truth through that latest of all advertising inventions called Motivation Research and Penetration in Depth. According to this research, the people said right at the beginning that they did not believe in testimonial advertising. "Yet, the report went on, "When questioned further in combination with other techniques employed by Motivation Research, these same persons revealed that in actuality, such advertising is exciting, vivid, individual, personal, informative and sincere." This looks as if anyone in advertising who can't prove his point, merely has to penetrate deep enough to come out on top.

For precision and versatility—choose
OWENS-ILLINOIS for PLASTICS

For example—
Fitments for metal containers (spouts and caps for aerosol shaving soap)
For example—
Fitments for glass nursery bottles
For example—
Cosmetic containers
For example—
Specialty items—Tire valve and battery caps

Owens-Illinois packaging know-how and high-quality standards offer you the *finest* in molding plastic facilities . . . Injection molding . . . Compression molding . . . A complete range in plastics for packaging, for specialties.

Branch Offices:

Albany . . . New York	Columbus . . . Ohio	Memphis . . . Tennessee	Portland . . . Oregon
Atlanta . . . Georgia	Dallas . . . Texas	Milwaukee . . . Wisconsin	Richmond . . . Virginia
Baltimore . . . Maryland	Denver . . . Colorado	Nashville . . . Tennessee	Rochester . . . New York
Birmingham . . . Alabama	Detroit . . . Michigan	New Orleans . . . Louisiana	St. Louis . . . Missouri
Boston . . . Massachusetts	Fresno . . . California	New York . . . New York	St. Paul . . . Minnesota
Buffalo . . . New York	Houston . . . Texas	Oakland . . . California	Salt Lake City . . . Utah
Charleston . . . West Virginia	Indianapolis . . . Indiana	Oklahoma City . . . Oklahoma	San Francisco . . . California
Charlotte . . . North Carolina	Jacksonville . . . Florida	Omaha . . . Nebraska	Seattle . . . Washington
Chicago . . . Illinois	Kansas City . . . Missouri	Peoria . . . Illinois	Toledo . . . Ohio
Cincinnati . . . Ohio	Los Angeles . . . California	Philadelphia . . . Pennsylvania	Yakima . . . Washington
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Doings

Sales Helps

*The 1955 Consumer Analysis of Greater Sacramento, metropolitan Fresno, greater Modesto, by the McClatchy Newspapers, the 3 Bees. This is the Ninth Annual Panel Study of these three markets.

*The 1955 Consumer Analysis Study of Seattle by the Seattle Times.

*Chain drugstores in the United States, Canada and Hawaii which gives an alphabetical listing of drug chains and geographical listing of chain headquarters, including the telephone number, a list of executives and buyers and the number of stores operated as well as a geographical listing of individual store addresses published by the National Association of Chain Drug Stores, 4 Park Avenue, New York 16, N. Y.

Bristol Laboratories is distributing Polycycline Ophthalmic Ointment for the treatment of superficial infections of the eye caused by organisms sensitive to tetracycline.

Burroughs Wellcome & Co. has announced a new dosage form of Marezine Hydrochloride brand Cyclizine Hydrochloride Suppositories.

Collins Laboratories, Inc., Miami, Florida, has a burn ointment made from the tropical aloe vera plant. Known as Collins Aloe Ointment, it is now being distributed to retail drug stores around the country.

Grant Chemical Co., 121 East 24th St., New York, has introduced Corovas Tymcaps in pellets of graduated size within a gelatin capsule. The capsule dissolves rapidly after it is swallowed, and the varied sizes of pellets begin their timed disintegration. The product is used for the prevention of coronary vasoconstriction and the prophylaxis of angina pectoris.

Lederle Laboratories has prepared Achromycin Surgical Powder, a new form of the broad spectrum antibiotic, Achromycin tetracycline, for topical application. The company is also offering stress formula vitamins in combination with Achromycin tetracycline in two new preparations: Achromycin Stress Formula Capsules and Achromycin Stress Formula for Oral Suspension.

Eli Lilly & Co. has a new nonbarbiturate, short-acting sedative, called Valmid, which controls simple insomnia.

Prince Matchabelli's Take-Kit Travel Set features Summer Shower Cologne and Summer Shower Talc in plastic squeeze-spray bottles.

The Mentholatum Company has repackaged its Mentholatum in an emerald green jar. The product will also appear in tubes in matching shade of green to assure family identity.

Milkmaid, Inc. has two new summer colognes, Lavender Lace and Gingham.

The Pepsodent division of Lever Brothers Co. is test marketing a new toilet bar called Dove. It is an opaque white bar with a sculptured form designed to be cupped in the hand.

Pfizer Laboratories has prepared a mint-flavored, chewing-gum tablet containing the long-acting motion sickness drug, Bonamine.

Pharmaceuticals, Inc. has introduced Zarumin, a new product which offers longer-lasting relief from arthritic and rheumatic-like pains.

The Purdue Frederick Co. is marketing a new form of Pre-mens tablets which includes d-Amphetamine. This is designed to relieve most of the symptoms associated with the premenstrual tension syndrome.

J. B. Roerig, division of Chas. Pfizer, has introduced Neobon Capsules which supply five major factors to combat the most common problems of aging.

Schenley Laboratories is distributing Morcal, a high-calorie, cereal-like food supplement for increasing the caloric value of the weight-gain diet, without overtaxing digestive capacity.

Schieffelin has reintroduced Estivin, a hay fever product. Last November, slight contamination was discovered in two batches of Estivin, and the company recalled every bottle from retailers' shelves.

Sharp & Dohme has released Reditrin Capsules with intrinsic factor, for the treatment of anemias.

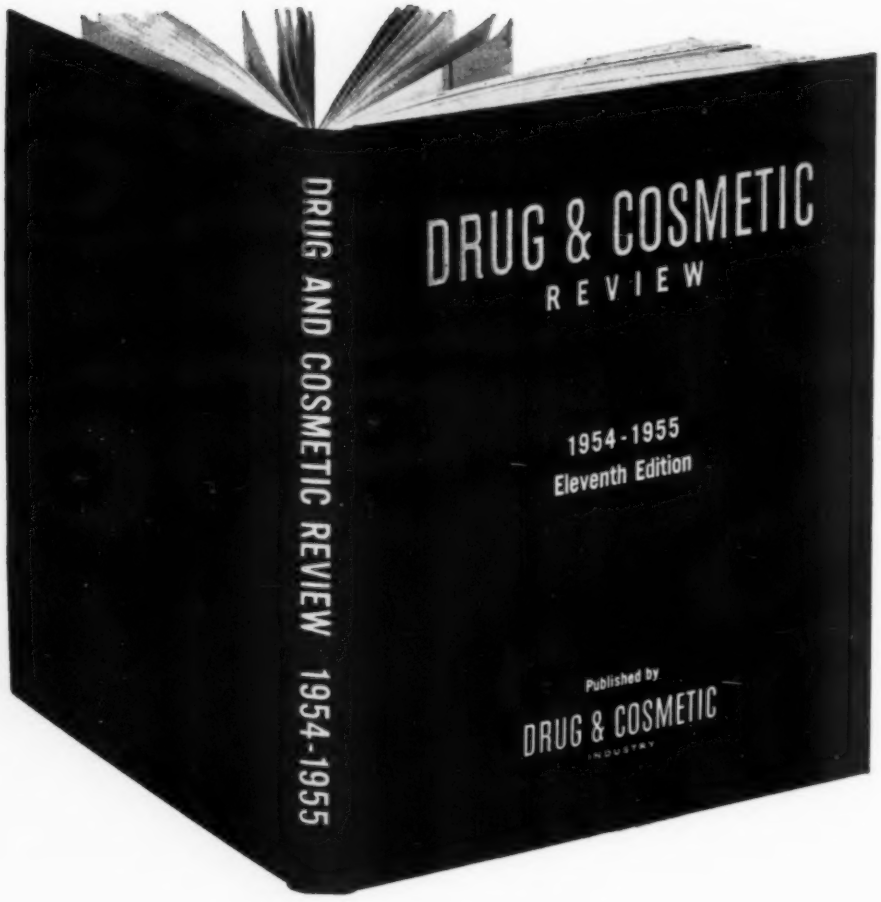
Thoss Manufacturing Co., North Manchester, Indiana, is marketing various sizes of Tube Winders which may be attached to the end of a collapsible tube as an aid in rolling the used section up. The Winders can be removed and used over again.

The Toni Co. has an all-new Toni home permanent with a "fresh-air" waving lotion and a simplified waving process. It is offered in two separate sizes: Toni for a complete permanent and Tip Toni for an in-between permanent for touching up.

Upjohn has released Reserpoid Elixir, a new liquid dosage form of reserpine.

Winthrop-Stearns has introduced Neo-Synephrine in a 0.25 per cent solution as a nasal spray for children.

A. H. Wirz, Inc., is licensing other manufacturers to produce its Ready-Peel removable lithographed labels.



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she spends

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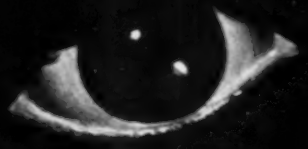

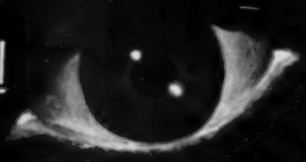

After the rent, taxes, utilities, and other basic fixed expenditures are all taken care of, American women spend $64-billion on such discretionary items as soaps, cosmetics, perfumes, specialty food items and hard goods. In round figures, that's about 80 percent of all such items bought each year.

So you see, *she's* the one we have to sell. And to sell her, we have to give her what *she* likes.

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Imco containers can be made in any shape or color under the sun . . . either by special design, or from our wide range of attractive stock bottles. We invite you to talk with us about tailoring your package to her 64-billion-dollar taste.

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CROWN CLOSURES

Success of aerosol s
the importance of a w

Here's why an aerosol package is more than a container

Of course, an aerosol package is wonderful protection against breakage and spoilage or evaporation. Retailers surveyed recently gave that as one of the prime advantages of aerosols . . . a good package *should* protect the product.

But more than that, an aerosol package is interesting and catches the customer's eye and imagination. With aerosol containers it's also easy to put plenty of information on labels, completing your selling job at the point of sale.

And an extra advantage that aerosol packaging gives your product is a selling point that goes right home with the customer—convenience. Easy-to-use aerosols help your product give even better results . . . win repeat business.

suntan sprays shows

f a working package

Du Pont has the aerosol know-how to help you explore this promising field

It's easy to see how well aerosol packaging fits into suntan-spray marketing plans. There's no quicker, easier way to apply a tan lotion . . . no method is more certain to give a dripless, even coating . . . no container could be more convenient and sturdy for the rugged outdoors, whether at beaches or on country picnics.

Many other types of products can profit from these same advantages of aerosols, and your own firm may be one that can capitalize on them as sales points. Certainly a field with the potential of aerosol packaging deserves careful study. And when you evaluate aerosols, there are two excellent sources of information and help available. Contract loaders in your area can give you the benefit of their experience with a wide variety of products. And, as manufacturer of "Freon"* fluorinated hydrocarbon propellents—by far the most widely used aerosol propellents—Du Pont has built a sound background of aerosol know-how that is at your service and can help you work with contract loaders when basic formulation work is completed.

Our experienced chemists can help you decide whether your product is suited for or can be adapted to aerosol dispensing. We can also advise you on setting up your own laboratory program for aerosol research and development. You can draw on Du Pont's fund of market-research data on aerosols for facts to base your plans on. And we can help you select the propellent best suited for your product. We've developed many "Freon" propellent compounds, and one of them is certain to offer the pressure, solvency, stability and other properties your product demands.

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This chart shows conclusively how the retail druggists of the nation have received aerosol products. Du Pont's latest survey of the aerosol market revealed that 99% of the druggists interviewed stocked one or more aerosols. Retail acceptance like this can help you put over your product . . . in an aerosol package!

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☐ I am interested in learning how I can get technical assistance.

The type of product I have in mind for aerosol packaging is _____

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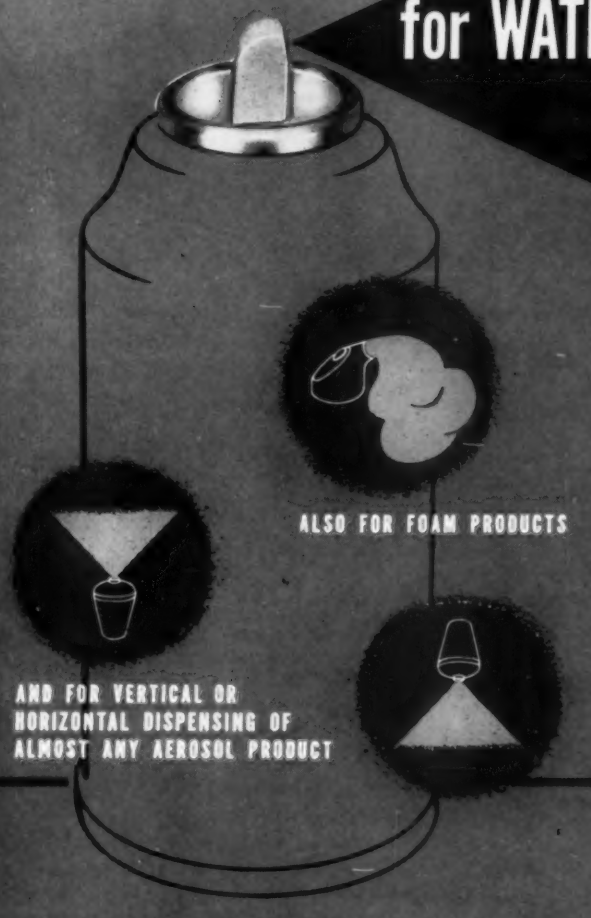

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Patent THOUGHTS AND TRENDS

*by Thomas Cifelli, Jr.**

PATENT ATTORNEY

Carter Products' "Rise" Patent Involved in Another Suit

Certainly, everybody — or almost everybody—knows that the Spitzer et al U. S. patent 2655480 was recently upheld in an action involving Colgate and other defendants. A detailed report on this case was given in the April, 1955, issue of this Journal.

As of the date of this writing it appears that another federal court is going to pass on this patent. The Mennen Co. instituted suit against Carter Products on March 18, 1955 in the U. S. District Court for the Southern District of New York (New York City). Inasmuch as Colgate is not a party to this New York suit it would appear that the question of Colgate's alleged appropriation of confidential information and trade secrets will not even enter the case and a decision solely involving the questions of infringement and validity of the patent will result. Time alone will tell.

Patent Facts Save Money

The only purpose of this title is to entice the reader into seeing what this is all about. Everyone is interested in money, i. e., acquiring and keeping it. Patents, on the other hand, at first blush appear to be the province of that small misunderstood class of people called inventors and that even-smaller but more-misunderstood group known as patent attorneys or agents. There are many money angles to patents and we shall now look into just one of them: how we can save a lot of time, trouble and money in securing patents.

First, let us be frank and admit that the cost of obtaining patents these days is pretty high—as is just about every other service or commodity. The cost is high whether you have "inside" or "outside" patent counsel. The former is on your pay-roll. The latter operates his own establishment. There is no intention here to go into the relative cost of inside or outside patent services. The thought is merely to accentuate the fact that the cost of *both* comes high. Yes, the bill of the outside man seems pretty high at times. This is so because his bill represents a number of different factors whereas the inside man's salary is merely one of those factors. For, you have to pay him whether he works or is sick and you have to make checks out to pay his secretary, the telephone company, the company which supplies heat and light, the Patent Office for filing and other fees, the Internal Revenue people for Social Security, the State for unemployment compensation contributions, etc., not to mention vacations with pay, bonuses, pensions, paid-up insurance policies of various kinds, and other so-called fringe benefits.

It seems like just good common sense, then, to try to make the dollar spent on patents go as far as possible. And here is where the anomaly enters! The patent profession is trying to do what it can to eliminate unnecessary costs but in many cases the inventors themselves resist such efforts. So the patent attorney, inside or outside, has no other alternative than to spend a lot more time on the case than would otherwise be necessary—and then charge for this additional time.

Perhaps the best single blow an inventor can strike for economy—and increased patent protection—is to give his patent counsel a full story, right from the beginning. Answer his questions as best you can, no matter how silly they may appear.

The best way to increase costs—and weaken your patent protection—is to resist giving your patent counsel the information and answers he is seeking. To do a particularly-excellent job of resistance be sure to tell him that you don't think the information is necessary and as a matter of fact you have read any number of patents which were granted without the information you are being asked to give. There are many answers to that. Investigation usually shows that your memory was not quite correct as to what the others did. However, it does sometimes happen that you are right but if you go a step further you will find that there may be stricter Patent Office requirements now and it is these that your patent counsel is trying to meet. Finally, it must be conceded that there are times when you are 100 per cent correct and the only answer is that the particular Examiner who let the patent pass was perhaps not as demanding as he might have been. The Examiner who handles *your* case may be more perspicacious.

It does absolutely no good to tell the Patent Office Examiners that just because a patent was issued in a similar situation you should succeed too. The pat answer of the Patent Office is that each case stands on its own and while the Office will probably not admit it made a mistake in the previous cases it will take the position that because a mistake may have been made before is no justification for making the same mistake twice.

Thus far we have been talking in generalities. We have not considered in detail what a full disclosure is and the legal basis for such a requirement. Perhaps it will be of value to do so right now.

Legal Basis for Requiring Full Disclosure

The Patent Law of 1952, section 112 provides in part:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming

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the subject matter which the applicant regards as his invention.

The Patent Office promulgated its Rules 71-75 on the basis of the foregoing statutory provision. These rules follow:

71. Detailed description and specification of the invention. (a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

(c) In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

72. Title of the invention. The title of the invention, which should be as short and specific as possible, should appear as a heading on the first page of the specification, if it does not otherwise appear at the beginning of the application.

73. Summary of the invention. A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, should precede the detailed description. Such summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed.

74. Reference to drawings. When there are drawings, there shall be a brief description of the several views of the drawings and the detailed description of the invention shall refer to the different views by specifying the numbers of the figures, and to the different parts by use of reference letters or numerals (preferably the latter).

75. Claim. (a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(b) More than one claim may be presented, provided they differ substantially from each other and are not unduly multiplied.

(c) When more than one claim is presented, they may be placed in dependent form in which a claim may refer back to and further restrict a single preceding claim.

(d) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

Recommended Disclosure in Chemical Cases

A. Where Chemicals Are Novel

Give a general formula which includes all the novel compounds but excludes all old or otherwise-unpatentable compounds.

Give a reasonable number of specific members of this family of compounds. Don't be stingy.

Give a general method for the preparation of the compounds.

Give the physical and chemical properties of the novel compounds.

Give a general statement of the uses of the compounds.

Point out anything which goes to show that the properties of the compounds could not have been predicted. Discuss the prior art here.

Give a reasonable number of specific examples, *in the greatest detail possible*, showing the preparation of various compounds, their uses, and the results obtained.

B. Where the Process Is Novel

Give a general statement of the advantages of the process and of anything which would tend to show that these advantages could not have been predicted. Discuss the prior art here.

Give a general method for carrying out the process.

State the materials employed in the process and give a number of substitutes for each material.

State the permissive and preferred ranges relating to the amounts of each material employed.

State the permissive and preferred ranges of all relevant conditions of the reaction, i. e., time, temperature, pressure, concentrations. If the order of addition of the reactants is pertinent, give details. Also give details on the control tests employed in conducting the process.

Give a reasonable number of specific examples in great detail showing how the process is conducted and the results obtained.

C. Where a Composition of Two or More Materials Is Novel

The same information as noted under A. is desirable. In addition, give the generic and specific classes of each component and the preferred and permissive concentration of each component.

Conclusion

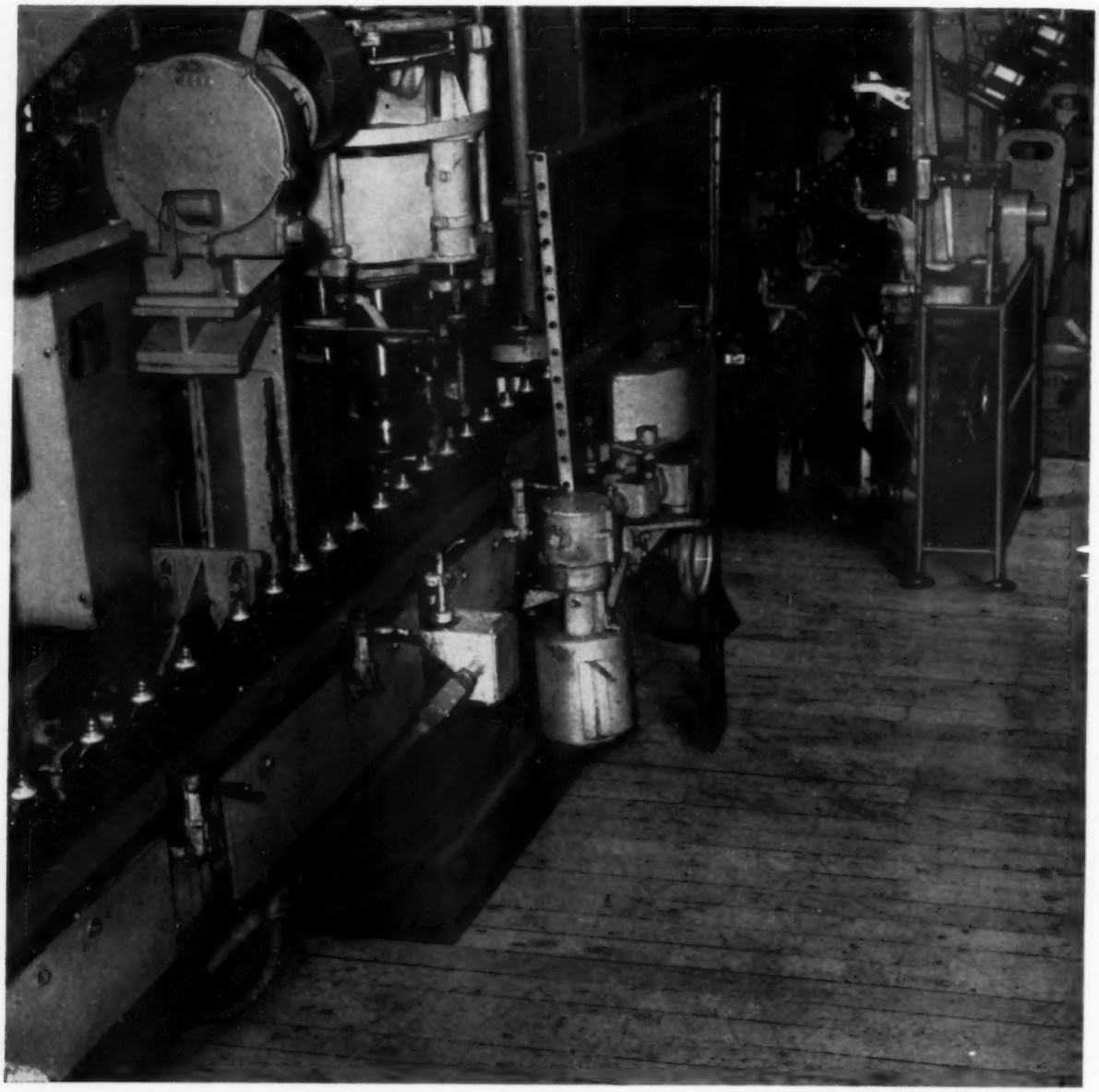
In an article of this type it is not possible to consider all situations. The thought here has been only to suggest the kind of information which could be collected and turned over to your patent counsel. He may not use it all. On the other hand he may desire some information not noted above. In any event, he probably will be grateful to get what he can. This is particularly true of those patent counsels who do not have the benefit of patent liaison colleagues. As regards those companies who have the latter, they are probably not as cost-conscious as those who cannot afford the luxury of such intermediaries between inventors and patent counsel. In any event, just as you do not want the architect who is drawing specifications for your house to "cut corners" so also give the architect of your patent structure the same consideration.

RECENT PATENTS

2,703,777—**Iso-Sol Co.—Ophthalmological Prepns.**

2,703,778—**E. T. Krebs et al—Therapeutic Emulsin Complex for Treatment of Intestinal Fermentation.**

(*Continued on page 834*)



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Whether you need help in developing a new aerosol idea or in filling a current product . . . whether you need 1,000 units or a million per week, G. Barr & Company's three aerosol filling plants—New York, Chicago, Los Angeles, can take care of your requirements now. Three key locations to assure you of freight savings and on-schedule delivery.

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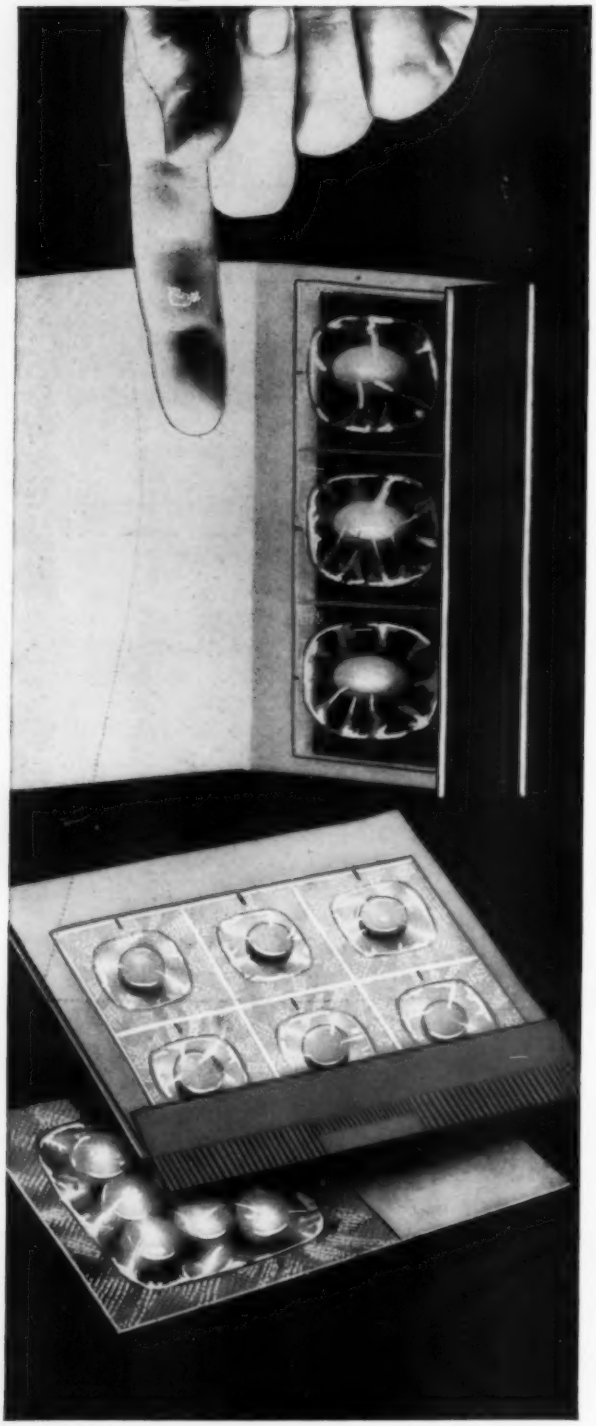

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So remember, if you want the world's lowest cost Unit-Packages specify I-L Standard-Sealtite . . . for quality, I-L Super-Sealtite.

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CREATORS OF A THOUSAND AND ONE DIFFERENT TYPES OF UNIT-PACKAGES for tablets, capsules, triturates, powders, liquids, creams and unusual products during 35 years of Packaging Service.

These bottles are from our popular 424 line. They are available in 12 sizes from 1 dram to 16 ounces. We can supply them clear or frosted. And, of course, they can be decorated with fired-on ceramic labels of your own design. We will be pleased to send samples of sizes in which you are interested.
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Astringent
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(Brand of Hexachlorophene)

The market for products containing G-11 is an established, growing market with virtually unlimited opportunities for profitable development.

Few products have ever been studied so exhaustively and given such unanimous acclaim by authorities. G-11 is recognized as the proven, effective and non-irritating antiseptic chemical that offers outstanding hygienic and deodorizing advantages.

Years of safe, successful use by millions of people assure the continued success of your products containing G-11.

As the originator and producer of G-11, Sindar offers you the benefits of its scientific knowledge, practical marketing experience and technical service in using it to the best advantage in your soaps, detergents and cosmetics.

Bulletins are available on:

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NEWS...

Heads Chem. Div., Armour

J. M. Hoerner has been appointed general manager of the chemical division of Armour & Co., succeeding F. B. Patton who has become general manager of the Armour Auxiliaries. He will be responsible for all activities of the division, including the production and marketing.

J. M. HOERNER

Bunney Appointed by Squibb

Dr. William E. Bunney has been named director of manufacturing operations of the E. R. Squibb & Sons division, Olin Mathieson Chemical Corp., according to John J. Toohy, vice-president. He succeeds Carl E. Anderson who has resigned to take an important executive post in another Company.

A member of Squibb since 1938, Dr. Bunney has held the successive posts of director of biological products production, director of the biological laboratories, director of the manufacturing laboratories and director of overseas manufacturing.

DR. WILLIAM E. BUNNEY

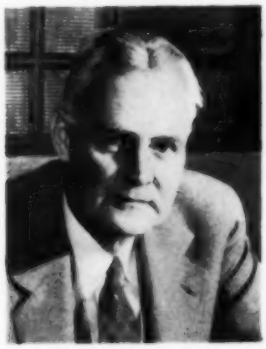
Named V.P., J. B. Williams

Anthony Oladko, with Johnson & Johnson for the past 10 years as plant manager, has been elected vice-president in charge of operations for the J. B. Williams Co., according to Charles T. Lipscomb Jr., president.

Peerless Tube Elections

Frederic Remington has been re-elected president of Peerless Tube Co., having already completed 25 years of continuous service in that capacity.

Theodore W. Schmitt has been re-elected executive vice-president; Franklin P. Russell, treasurer; and Nathalie Ann Hetzel, secretary.



FREDERIC REMINGTON

T.G.A. Golf Tournament

Four major trophies were won by members of the Toilet Goods Association during the annual golf outing at Winged Foot Golf Club, Mamaroneck, N. Y., on May 9. Walter A. Jamieson, of the Walter A. Jamieson Co. won the Cecil Smith Trophy; Peter L. Forsman, of C. H. Forsman Co., the B. M. Douglas Trophy; Dr. Everett McDonough, Evans Chemetics, the B. E. Levy prize; and Paul Douglas, Bourjois, Inc., the Maple Leaf Trophy.

The Maple Leaf Award was donated this year for the first time by the Toilet Goods Manufacturers Association of Canada.

Other winners of the golf tournament were: H. Buchanan, van Ameringen-Haebler, Inc., 1st Low Gross; Lewis Bernstein, Coty, Inc., 2nd Low Gross; L. G. Phillips, Owens-Illinois Glass Co., 3rd Low Gross; C. McGowan, Master Photo Engraving Co., 1st Low Net; R. Vosburgh, Flexcel Corp., 2nd Low Net; H. Robert Miller, White Metal Mfg. Co., 3rd Low Net; B. Lindsay, van Ameringen - Haebler, Inc., Longest Drive; and Don Shaw, Richford Corp., Nearest the pin.

Sterett Named by Gair

Joseph L. Sterett has been appointed sales promotion representative for the shipping container division of Robert Gair Co. He will also work in product development activities.

Sexton with Purdue Frederick

Dr. William M. Sexton, formerly with the medical service division of Ciba Pharmaceutical Co., has been appointed associate medical director of the Purdue Frederick Co.

Speakers at annual spring meeting of Society of Cosmetic Chemists, May 13, at Hotel Biltmore in New York: left to right, seated: M. B. Epstein, Onyx Oil & Chemical Co.; S. J. Strianse, Vicek Chemical Co., program chairman; W. B. Baker, S. B. Penick & Co.; and Dr. C. Carruthers, Roswell Park Memorial Institute. Standing: Dr. A. Wilson, Colgate Palmolive Co.; Dr. Warren Andrew, Bowman Gray School of Medicine; Lester Conrad and Kalmen Motiuk, both of American Cholesterol Products. Dr. E. Henderson, Schering Corp., and Dr. Peter Flesch, University of Pennsylvania, were not present for this picture.

ROBERT F. ELDER

ROBERT A. GLAENZER

Schultz Heads Cons. Cosmetics

Dr. Joseph Schultz, formerly president of Lady Esther and a director of its parent cosmetics company, the Zonite Products Corp., has become president of Consolidated Cosmetics, manufacturer of Lanolin Plus products, where he succeeds Karl Kaempfer. Dr. Schultz resigned his former positions on June 1.

At Consolidated Cosmetics, he will also assume the duties of J. Leslie Younghusband, founder of Lanolin Plus, who recently sold his interest in the concern.

Charles T. Silloway, president of Zonite, has assumed the duties of Dr. Schultz at Lady Esther.

Gair Opens Atlanta Plant

Robert Gair Co. has opened a new container plant at Atlanta in order to meet the expanding demand for corrugated shipping containers in the southeastern states. The plant, which began operations in March, was formally opened on April 29, with more than 350 guests attending an open house and plant tour.

Jack L. Wyche, formerly with Birmingham Paper Co. and Pollock Paper Corp., is acting manager. Leslie Cherry, who went to Atlanta after 16 years at Gair's plant at Martinsville, Va., is general foreman, while R. W. Turner is personnel manager.

Robert W. Groner, Jr., is southeastern district manager of container operations for Gair, covering the Atlanta and Martinsville plants.

Schuck with Lederle Labs.

George E. Schuck, Lt. Col., USA (Ret.), has become manager of government sales for Lederle Laboratories division, American Cyanamid Co., according to Henry Wendt, director of sales. He is replacing the late F. L. Murphy.

Chesebrough Exec. Appointments

Arthur B. Richardson, president of Chesebrough Manufacturing Co. since 1944, has become chairman of the board, and Jerome A. Straka, executive vice-president for one year, has been elected president.

Clifford W. McGee, retiring chairman, will continue to serve as a director.

The following officers have been re-elected: Basil L. Emery and Robert C. Fuller, as vice-presidents; Charles E. Klein, treasurer; Frank J. McGroarty, secretary; William J. Haggerty, assistant treasurer; and Edith V. Blauvelt, assistant secretary.

Pflug, V.P., Peerless

William W. Pflug, formerly with Sun Tube Corp., has been elected a vice-president and appointed sales manager of Peerless Tube Co., according to Frederic Remington, president.

Plax Moves N. Y. Office

The New York district office of the Plax Corp. has moved to Room 308, 500 Fifth Ave., New York 36. The telephone number is PEnnsylvania 6-9354.

Plax Exec. Appointments

Robert F. Elder, for the past five years a marketing consultant, has been elected executive vice-president of Plax Corp.

Robert A. Glaenzer, formerly general sales manager, has become vice-president in charge of sales.

C. Paul Fortner, formerly director of research, is now vice-president in charge of research and development, while Richard S. Light has joined the company as general factory manager.

Ace Carton Appointments

The Ace Carton Corp., with headquarters in Chicago, has employed Wallace Foster, Inc., a point-of-sale and product promotion organization, to represent them in the eastern area. Wallace E. Foster will continue his own display activities but will supervise Ace Carton's packaging sales in the area.

Robert E. Mitchell, formerly with *American Druggist*, has been employed by Ace Carton to work in their interest, but also as vice-president of the Foster organization.

Arthur Biles, formerly with Hoffmann-La Roche Co., has become a representative of Ace Carton, covering the Philadelphia, Pittsburgh and Baltimore areas.

Jensen in Ayerst Advg. Post

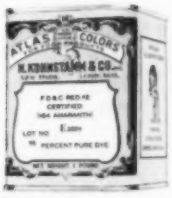
Whitmore Jensen has been appointed assistant advertising manager of Ayerst Laboratories. He joined the firm in 1952.

ADACIOM Meeting

Jack Buck, an announcer on the St. Louis television station WTVI-TV, spoke on "Baseball as I See It," at the May 11 meeting of the Associated Drug and Chemical Industries of Missouri.

Harold Anderson (H. Kohnstamm & Co.), left, CIBS president, and Ben Perry, Perry Bros., chairman of the membership committee, greeting Commissioner Angela Parisi, chairman of New York State Workmen's Compensation Board. Miss Parisi was guest speaker at annual ladies day meeting on May 5.

colors that rival nature



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You wouldn't buy HALF a Rose!

When you buy a rose you are entitled to all the aromatic quality, value and satisfaction the flower can give.

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WILLIAM A. ARKO

FRANK A. BALL

75th Year for G. F. Harvey

The G. F. Harvey Co., founded in 1880, is beginning the celebration of its Diamond Anniversary. As one step in the company's expansion program, Edward Ronwin has been appointed director of research, according to E. S. Thomforde, general manager.

Having been among the leading pharmaceutical firms in the country during the past 75 years, G. F. Harvey is now embarking on a program of expansion which will provide the professions with the latest in modern therapeutic preparations and service.

Blunt, President of GCMI

Royden A. Blunt, president and general manager of the Buck Glass Co., was elected president of the Glass Container Manufacturers Institute, Inc. at the Institute's 11th annual meeting at the Greenbrier Hotel, White Sulphur Springs, on May 10.

J. P. Levis, chairman of the board of directors of Owens-Illinois Glass Co., was elected 1st vice-president, and F. W. McDonald, vice-president and general manager of Glass Containers, Inc., became 2nd vice-president.

Sterling Honors Two Executives

Harvey M. Manss, vice-president and a director of Sterling Drug Inc., in charge of the Bayer Co. division, and Dr. Martin Lasersohn, executive vice-president of Winthrop-Stearns Inc., a Sterling subsidiary, were both honored by Sterling at a luncheon on April 29 at the Biltmore Hotel. They have been with the company for 25 years.

James Hill, Jr., chairman and president of Sterling, headed the group attending the luncheon. The guests comprised Sterling's executive committee, officers of the Bayer and Winthrop-Stearns organizations and executives of other Sterling companies.

Named Directors of Max Factor

Alfred Firestein and Sidney Factor have been added to the board of directors of Max Factor. They filled two vacancies which had been created when the board was enlarged from seven to nine members.

Mr. Firestein, 30, is the youngest member of the board and the first of the third generation of Factors to be elected a director of the firm. He is a grandson of the late Max Factor, who founded the company in 1909, and the son of Max Firestein, executive vice-president. Sidney Factor is the youngest of Max Factor's four sons.

Tuckley Named Works Mgr.

Henry H. Tuckley has been appointed works manager of Sterling Drug Mfg., Ltd., Windsor, Ontario. He will be in charge of all production and engineering operations.

Prior to this appointment, Mr. Tuckley had been assistant manager of the Rahway, N. J., plant of the Centaur-Caldwell division of Sterling Drug Inc.

Ungerer Appointments

William A. Arko has been appointed direct sales representative of Ungerer & Co., at the Chicago district sales office, where he will report directly to J. L. Slais, Chicago district sales manager.

Frank A. Ball has been appointed sales representative, with headquarters in the firm's Chicago district office. He will cover adjacent midwestern states as his territory, and he will also report directly to Mr. Slais.

Hochberg Appointed by Nopco

Dr. Melvin Hochberg, head of the vitamin products laboratory, has been appointed director of research and production of the Nopco Chemical Company's vitamin division, according to Harold A. Swanson, assistant vice-president in charge of the division.

In addition to his previous responsibilities, he will now assume responsibility for the direction of the Vitamin Assay laboratories and the nutrition laboratory. He will also be in charge of all vitamin division production, including nutritional fortifiers for animal and poultry feeds, pharmaceutical products, and vitamin concentrates for milk and dairy products produced for Vitex Laboratories, a Nopco subsidiary.

Willie, V.P., Toni Division

Walter G. Willie, formerly general sales manager, has been named vice-president in charge of sales for the Toni division of the Gillette Co., according to R. N. W. Harris, president. He has been associated with Toni since 1947 when he became a sales representative.

James Hill, Jr., center, chairman and president of Sterling Drug Inc., congratulating Harvey M. Manss (left), vice-president and director of Sterling in charge of the Bayer Co. division, and Dr. Martin Lasersohn, executive vice-president of Winthrop-Stearns Inc., on completion of 25 years of service with the company.

ATLAS chem-memos

SORBITOL, MANNITOL AND RELATED POLYOLS • EMULSIFIERS, SOLUBILIZERS

Sorbitol useful in elixirs as stable, low-cost bodying agent

Many commonly used elixir formulas incorporate sorbitol advantageously as the bodying agent or vehicle. Tests made in the Atlas laboratories indicate that most preparations made with SORBO®—70% sorbitol solution—are stable at temperatures ranging from −18°C. to 50°C. Principal benefits to be gained through the use of SORBO are:

Improved bodying effect. SORBO provides greater viscosity at comparable level of solids content.

Excellent stability. Made to high purity standards. SORBO has a broad range of compatibility . . . does not react with most active medicinals . . . is exceptionally free of contaminants.

Lower price. Substantial savings can be realized with SORBO. Its price has had a steady downward trend, and ample production is available.

The following suggested guide formula is typical of many traditional preparations in which SORBO has been incorporated. The resulting elixir is slightly more viscous than when glycerol is substituted for the SORBO on a solids basis. Viscosity of the preparation shown here may be lowered, if desired, by using less SORBO.

IRON, QUININE AND STRYCHNINE PHOSPHATES ELIXIR

Soluble ferric phosphate	35	gm.
Quinine phosphate	5	gm.
Strychnine phosphate	0.25	gm.
Orange oil	1	cc.
Alcohol	250	cc.
Sorbo	508	gm.
Distilled water		q.s. 1000 cc.

Preparation: Dissolve the soluble ferric phosphate in 217 cc. of distilled water by cold maceration, and add 127 grams of SORBO. Dissolve the strychnine phosphate in the alcohol, and add the orange oil, the quinine phosphate, and the remainder of the SORBO, 381 grams. Shake until thoroughly mixed; then add the ferric phosphate solution and enough distilled water to make the product measure 1000 cc. Allow the mixture to stand 24 hours, shaking repeatedly until the quinine phosphate is dissolved. Filter, if necessary, using 10 grams of purified talc.

Other typical elixir formulations using SORBO are suggested in the booklet, "A Guide to Cosmetic and Pharmaceutical Formulations Using Atlas Products." Write to Atlas today for your copy.

Forward-looking formulators use ATLAS products

. . . like U. S. Vitamin Corporation, New York, N. Y., manufacturers of aqueous multi-vitamin preparation "Vi-Syneral Vitamin Drops," and developers of the process for converting oil-soluble vitamins into water-soluble form (U. S. Patent 2,417,299). "Vi-Syneral Vitamin Drops" is a favorite of the medical profession for supplementing diets of infants and children.

Atlas products useful in tablets and pills

Polishing of tablets with microcrystalline wax has been materially improved by incorporating Tween® 80 in the wax suspension. From 0.75 to 1.00% Tween 80 added to a 15% suspension of wax in carbon tetrachloride produces excellent uniformity of the wax coating and good gloss on the finished tablets. The Tween 80 also assists in the removal of the coating when the tablets are placed in water, by virtue of its oil-in-water solubilizing effect.

Atlas mannitol, a crystalline non-hygroscopic material, is especially valuable as a diluent for powdered medicinals and as a filler for tablets.

The opacity of pan coatings on pills can often be enhanced by including Tween 60 in the coating syrup. Concentrations of about 0.2% Tween 60 are useful for this purpose. The Tween 60 speeds up crystallization and produces an excellent opaque finish.

Atlas chemists will be glad to investigate these and other applications for Atlas products in the tablet and pill products you manufacture.

DR. GEORGE HAM

Ham with J. T. Baker

Dr. George Ham has been appointed director of research of the J. T. Baker Chemical Co., according to Dr. E. C. Larsen, vice-president and technical director. He had previously been with Monsanto Chemical Co. and its subsidiary, Chemstrand Corp., for 10 years. He has over 50 patents in the field of plastics, synthetic fibres and chemical intermediates.

A. Ph. A. Elections

Dr. Chester E. Poetsch, head of the pharmaceutical chemistry section at Smith, Kline & French Laboratories, has been elected president of the Philadelphia branch of the American Pharmaceutical Association.

Other elections for the period of 1955-56 include William T. Fink, Wyeth International, as vice-president; Earl A. Kimes, head of the research and development products laboratory at Smith, Kline & French, treasurer; and John A. Lynch, assistant professor of Pharmacy and Pharmaceutical Economics at Temple University School of Pharmacy, as secretary.

Papa Receives Iodine Award

Dr. Domenick Papa, assistant vice-president of Schering Corp., received the annual Chilean Iodine Educational Bureau Award for 1955 on May 5 in recognition of his outstanding research in the chemistry of iodine and its compounds as applied in pharmacy and medicine.

The Award, consisting of $1,000 and a certificate of citation, was presented to Dr. Papa at the annual meeting of the American Pharmaceutical Association in Miami. Dr. Justin L. Powers, editor of the *Journal of the American Pharmaceutical Association* and chairman of the Award committee, made the presentation.

Cos. Chemists Award to Rothman

The Society of Cosmetic Chemists honored Dr. Stephen Rothman on May 13 by presenting him with its Special Award for 1955 in recognition of his accomplishments in dermatological research. He received the $1,000 award at a special luncheon ceremony during the annual spring meeting of the Society in New York.

Dr. Kenneth L. Russell, president of the Society, made the presentation. James H. Baker, chairman of the Society's Special Award Committee, and Dr. Marion B. Sulzberger, director of dermatology, N.Y.U. Bellevue Medical Center, delivered introductory talks prior to the Award ceremony.

Dr. Rothman's book, "Physiology and Biochemistry of the Skin," was cited as a significant contribution to research on cosmetic technology. Covering 33 years of research into dermatological problems, the volume fills a gap which was open for many years in dermatology.

Dr. Rothman is currently serving on the American Medical Association's Committee on Cosmetics.

Carbide Appointments

M. W. Duncan has been named assistant district sales manager of the Kansas City district, Carbide & Carbon Chemicals Co., and J. R. Retter has become assistant district sales manager of the Detroit area, according to E. E. Fogle, vice-president.

Dr. Stephen Rothman, left, professor of Dermatology at University of Chicago, accepting Society of Cosmetic Chemists' Special Award of $1,000 from Dr. Kenneth L. Russell, Society's president, at annual spring meeting on May 13 in New York.

Named Directors of Norwich

Dr. L. Eugene Daily, medical director, and Thomas J. Eaton, assistant vice-president in charge of the service division, have been elected directors and vice-presidents of Norwich Pharmacal Co.

Dr. Daily is now in charge of the company's Eaton Laboratories division which is concerned with the distribution of drug products for the medical and veterinary profession.

Mr. Eaton represents the third generation of the Eaton family to be associated with the firm.

Lenher Promoted by du Pont

Samuel Lenher, assistant general manager of du Pont's organic chemicals department, has been elected a director, vice-president and member of the executive committee of the company.

Amos E. Light, right, of Wellcome Research Laboratories, accepting annual CIBS Award from Harold N. Anderson, H. Kohnstamm & Co., and CIBS president. Award is given for best paper presented at Scientific Section of the Toilet Goods Association during the preceding year.

DE LAIRE

PERFUME SPECIALTIES • AROMATIC CHEMICALS

SINCE 1876, WHEN FABRIQUES DE LAIRE PLACED AROMATIC ORGANIC CHEMICALS AT THE DISPOSAL OF THE PERFUMERS, THE REPUTATION OF DE LAIRE PRODUCTS HAS BEEN KNOWN THE WORLD OVER.

BACKED BY THE SPECIALIZED AND LONG ACCUMULATED EXPERIENCE OF THE FABRIQUES DE LAIRE, LOCATED IN ISSY AND CALAIS, FRANCE, OUR MODERN NEW YORK LABORATORY IS EQUIPPED TO WORK ON THE DEVELOPMENT OF YOUR FINE FRAGRANCES, AND INVITES YOUR INQUIRIES.

DE LAIRE, INC. 114 EAST 32ND STREET, NEW YORK 16, N.Y.—TELEPHONE: MURRAY HILL 3-9957

HARRIS SHORE

Shore with Felton Chem.

Harris Shore has been appointed manager of Felton Chemical Company's newly created true fruit department. He was formerly affiliated with Polak & Schwarz as chief flavor chemist and Seeley Co., as chief chemist and vice-president.

Coe Promoted by Gen. Electric

Jerome T. Coe, formerly manager of sales development, of the silicone plant in Waterford, N. Y., has been appointed sales manager for the General Electric Company's silicone products department, according to T. C. Ohart, manager of marketing for that department.

Research Center for Nat. Aniline

National Aniline division, Allied Chemical & Dye Corp., held open house ceremonies from May 19 through May 21 marking the completion of its new Research and Engineering Center at its Buffalo plant. These events, according to Donald G. Rogers, president of National, coincided with the observance of Chemical Progress Week, May 16 to 21.

The open house program started with a preview and reception for representatives of the press, radio and television in the Research Library on May 19 and ended with a reception for all Buffalo plant employees and their families on May 21.

The Research and Engineering Center is a connected two-building facility, combining National Aniline's research and engineering departments. Research is under the direction of Dr. Wesley Minnis, director of research and development, and Engineering is headed by Forrest J. Krueger, engineering manager.

Direct supervision of the two facilities in Buffalo is under B. M. Helfaer, assistant director, research and development, and E. H. Bebee, assistant plant manager, engineering.

D'ARCY F. McCONVEY

Names Canadian Agent

Dalex Co., Ltd., has been named Canadian representative for Whittaker, Clark & Daniels, for the distribution of the Whittaker line of minerals, colors and pigments in Canada. At the same time, Dalex will also be representing Canadian Talc Industries, Ltd., Madoc, Ontario, and will distribute this company's products throughout the Canadian sales territory, as well as Thomasset colors for Whittaker.

D'Arcy F. McConvey, president and general manager of Dalex Co., Ltd., and professional engineer, was formerly associated with Dominion Rubber Co., Ltd., Montreal, and later with Standard Chemical Co., Ltd.

Chemists' Club Elections

Ira Vandewater was re-elected president of the Chemists' Club last month. Additional officers elected at the same time were L. V. Steck, vice-president; J. H. Rushton, non-resident vice-president; B. L. Clarke, suburban vice-president; William Wishnick, Jr., junior vice-president; Lloyd Van Doren, secretary; and L. E. Earlandson, treasurer.

Those elected as trustees for the 1955-58 term were Howard Farkas, Edgar W. Harris, W. H. Richardson and Lincoln T. Work.

Honorary membership in the club was conferred on Dr. Peter J. W. Debye, Dr. Otto Maas and Dr. Warren K. Lewis.

GCMI Glass Promotion

At a luncheon meeting in New York on May 26 the Glass Container Manufacturers Institute announced a million-dollar advertising and promotion program it is undertaking in order to promote the further use of glass bottles and jars among the 160 million consumers in the United States. R. L. Cheney, GCMI's director of marketing, predicted there would be vast new markets for glass containers in the next 10 years.

This campaign, which includes magazines, television, news, trade and labor papers, augmented by promotion, merchandising and consumer education, is beginning this month.

About $9 billion was spent on packaging in the United States last year. Of this, over $700 million was devoted to glass containers.

Buys Master Cartons

Ace Carton Corp. has purchased controlling interest in Master Cartons, Inc., San Gabriel, Calif., according to A. C. Fessenden, president of Ace, who stated that the name of the firm will be changed to Ace Carton Corp. of California.

George T. Franck is president of the new company, and Sheldon O. Crowen, vice-president in charge of sales, both men having held the same positions with Master Cartons.

The company has broken ground for a 50,000-square-foot manufacturing plant at Puente, Calif., and when completed, operations will be transferred to this site from San Gabriel.

Adds Four Salesmen

Tinkerbell Toiletries has named four new sales representatives, according to Mike Greenfield, president. George H. Klippel will cover Illinois and Wisconsin; John Dougherty, Missouri and Kansas; Roy E. Wilson, Utah, Montana, Idaho, Wyoming and Colorado; and Frank Yates, Louisiana, Mississippi, Arkansas and Memphis, Tennessee.

Aerial view of new multi-million-dollar research-engineering center of National Aniline division of Allied Chemical & Dye Corp., in Buffalo. The center comprises two structures, engineering building (left) and research building.

DR. E. J. FOLEY

Foley Heads Winthrop Med. Dept.

Dr. E. J. Foley, medical director of Winthrop-Stearns Inc., has been appointed to the additional post of head of the medical department, according to Dr. Theodore G. Klumpp, president. He succeeds the late Dr. Frank J. Stockman. He has been associated with the Winthrop organization for the last 22 years.

In addition to his duties as medical director, Dr. Foley will also direct activities of the company's editorial department and medical library.

Lehn & Fink Honors Plaut

Employees of Lehn & Fink Products Corp. last month honored their president, Edward Plaut, for his 40 years of service with the corporation. The event took place at the company's second annual Quarter Century Club awards dinner, Waldorf Astoria Hotel, New York.

At the dinner six new members joined the Quarter Century Club, bringing the total number of 25-year employees currently with the firm to 107.

New Canadian Plant for P-D

Parke, Davis & Co. is planning to build a multi-million-dollar pharmaceutical manufacturing laboratory at Brockville, Ontario, Canada, with construction beginning immediately. The plant is scheduled to be completed by the middle of next year, according to Homer C. Fritsch, executive vice-president.

The new laboratories, which will be a model of efficient operations, will enable Parke-Davis to serve Canadian physicians, pharmacists and hospitals better and faster.

Parke-Davis now employs about 200 employees at its Walkerville plant which will continue to operate until the new Brockville laboratories are ready.

DR. EMERY I. VALKO

Onyx Oil Appointments

Dr. Emery I. Valko has been elected vice-president of Onyx Oil & Chemical Co. He will also continue as director of research.

Dr. Guilliana C. Tesoro, former head of the organic research department, has become assistant director of research in charge of chemical research.

Henry A. Molteni has been appointed assistant director of research in charge of development and services.

Merck Fellowships

The National Academy of Sciences, National Research Council, has awarded four Merck Senior Postdoctoral Fellowships in the Natural Sciences for the academic year 1955-56. These fellowships were established in 1946 by a grant of $100,000 from Merck & Co. and have since been supplemented by additional grants, bringing the total to approximately $300,000.

The new Merck Fellows are Dr. Harlyn Odell Halvorson, assistant professor in the Department of Bacteriology, University of Michigan; Dr. Clifford Ralph Stocking, associate professor, Department of Botany and associate botanist, Experiment Station, University of California at Davis; Dr. Joseph Weber, professor of Electrical Engineering, University of Maryland; and Dr. David Walter Weiss, staff assistant in the Pathology and Microbiology Department, Rockefeller Institute.

Shulton Subsidiary in Netherlands

Shulton, Inc., has formed a subsidiary in Leiden, Netherlands, according to George L. Schultz. This new corporation, Shulton N. V., marks the company's first manufacturing and distribution organization in Europe. Its purpose is to provide European representatives with Shulton products that can be sold at competitive prices in the various countries.

John H. Douglas, Shulton European sales representative for the past two years, will manage the subsidiary and will reside in the Netherlands with his family.

Peters with Hoffman-Taff

Raymond H. Peters has been appointed manager of the newly established eastern division of Hoffman-Taff, Inc., and its subsidiary, Hoffman Laboratories, Inc., according to Walter H. Hoffman, president. He had formerly been sales manager of the bulk chemical division of Schering Corp.

The headquarters of the Hoffman-Taff eastern division will be in Roselle, N. J., where a new warehouse and branch office is scheduled for completion some time this month.

Miss Seifer Leaves Matchabelli

Essie M. Seifer has resigned as package development manager and coordinator of Prince Matchabelli, Inc., according to Owen Stoner, president. She held the post for 14 years, prior to which she had been purchasing agent and coordinator of sales, purchasing and production.

Stuart Named V.P., Pfizer

J. William Stuart has been elected vice-president, personnel, of Chas. Pfizer & Co., Inc. He had formerly been director of industrial relations.

Promoted by Pitman-Moore

Alan Wakeland, who joined Pitman-Moore Co. in 1950, has been named chief accountant of the firm.

Architect's drawing of multi-million-dollar pharmaceutical manufacturing laboratory to be built by Parke, Davis & Co., at Brockville, Ontario, Canada.

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8. FLEXOL Plasticizers, 3rd Edition
9. Ketones
10. Organic Acids
11. Organic Chlorine Compounds
12. Emulsions and Detergents, 9th Edition
13. 1955 Edition Physical Properties of Synthetic Organic Chemicals

In Canada: Carbide Chemicals Company, Division of Union Carbide Canada Limited, Toronto

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Dr. Carle M. Bigelow

Dr. Carle M. Bigelow, consultant and former assistant to the general manager of the fine chemicals division, American Cyanamid Co., died May 10 at Somerset Hospital, Somerville, N. J., after a month's illness. He was 65 years old.

He had been associated with American Cyanamid since 1934, when he joined the Calco Chemical division as director of the pharmaceutical department.

During World War II, Dr. Bigelow was a member of the Drug Resources

DR. CARLE M. BIGELOW

Committee, Washington, D. C., in which he organized and directed the Medical Supplies Section of the British Purchasing Committee.

Before joining Cyanamid, he had been an industrial engineer with Sayles Finishing Plants from 1912 to 1916, and chief engineer at Cooley & Marvin from 1916 to 1924. He was president of Bigelow, Kent, Willard & Co. from 1924 to 1935.

Surviving are his wife, Mrs. Maude Gotcher Bigelow; a son, Ervin S. Bigelow; two daughters, Mrs. J. R. Burkett and Mrs. T. R. Liebert; and six grandchildren.

Manheimer Imports Record Piece of Ambergris

After a couple of years of negotiating, J. Manheiner last month received a shipment of one of the largest pieces of ambergris ever imported to this country. Weighing 150 pounds, eight ounces, this ambergris, from Norway, is valued at about $20,000.

Mohr, Gen. Mgr., Lentheric

Jack H. Mohr has been appointed general manager of the Lentheric division of Olin Mathieson Chemical Corp., according to J. C. Leppart, executive vice-president, Olin Mathieson. He has been director of marketing for Lentheric since March, 1954.

Harold G. Robinson

Harold G. Robinson, vice-president and director of Whittaker, Clark & Daniels, died May 3. He was 57 years old. He had originally been associated with the firm of W. B. Daniels in 1916 and thereafter became a sales representative for the new company when W. B. Daniels and W. H. Whittaker Co. combined in 1918.

Mr. Robinson is survived by his wife, Dorothy; and a son, Henry Harper.

HAROLD G. ROBINSON

Dr. Bird Retires from Lederle

Dr. John C. Bird, coordinator of new products development, Lederle Laboratories division, American Cyanamid Co., has retired at his own request, according to Dr. B. W. Carey, director of the Laboratories. He will continue to be available for consultation and advice with respect to his former activities.

Dr. Bird's first position was with the Sir William Crookes Laboratories in England, during which he traveled throughout Europe establishing branches for the firm. He came to the United States in 1928 as a representative of Crookes Laboratories, later becoming associated with the Wyeth Laboratories, Hoffmann-La Roche, and Vick Chemical Co., where he was vice-president of that firm's vitamin division.

He has coordinated new product developments for Lederle for 11 years.

William Jay Schieffelin

William Jay Schieffelin, retired chairman of the board, Schieffelin & Co., died April 29 at his home, 620 Park Ave., New York, after a long illness. He was 89 years old. In addition to his business activities he was a crusader for government reform, education for Negroes and many other humanitarian causes.

Surviving are five sons, William Jay Jr., John Jay, Bayard, Elliott and Henry Schieffelin; three daughters, Mrs. Frederick Osborn, Mrs. Charles S. Brown, and Mrs. Charles Bosanquet; 26 grandchildren and 34 great-grandchildren.

Arthur G. Linde

Arthur G. Linde, sales representative of Givaudan Flavors Inc. in the New York-New Jersey area, died May 6, at the Fort Hamilton Veterans' Hospital following a long illness. He is survived by his widow and two children.

Arthur H. Rowe

Arthur H. Rowe, retired chemical salesman for Heyden Chemical Corp., died on May 16, at Monroe, N. Y. He was 75 years old.

Gauer with Clarence Morgan

Joseph A. Gauer has joined Clarence Morgan Inc., Chicago, as a representative and will specialize in vegetable gums, benzoate of soda, waxes, fatty acids and chemicals. He had previously represented Fritzsche Brothers Inc. in the Middle West for 25 years until illness from which he has recovered completely caused his retirement.

D&O Moves Sales Office

Dodge & Olcott, Inc., has moved its San Francisco sales office to 503 Market St. in that city. The telephone number is EX 7-0571. This office is under the direction of Frank Murdock.

Ravenscroft Named by Abbott

Edward A. Ravenscroft, vice-president in charge of engineering, has been elected vice-president and comptroller of Abbott Laboratories.

Dr. John C. Bird, retiring as coordinator of new products development for Lederle Laboratories, is honored at farewell party given by associates. He is receiving a gift from Dr. F. E. Stirn, director of pharmaceutical product development.

Give your aerosol product the advantage of a GIVAUDAN CUSTOM-MADE FRAGRANCE

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A very important page for your Chemical Data Book!

JEFFERSON CHEMICALS

Ethylene Oxide—A highly reactive chemical intermediate, for use as a starting material in the manufacture of acrylonitrile and nonionic surface active agents; a sterilizing agent and fumigant.

Ethylene Glycol—For use as a nonvolatile antifreeze; a heat transfer medium; a raw material in the manufacture of low-freezing dynamite; a starting material for the production of synthetic fibers and alkyd resins; a plasticizer; a constituent of hydraulic fluids; and a general solvent and chemical intermediate.

Ethylene Dichloride—For use as an ingredient of tetraethyl lead fluid, a fruit degreening compound and agricultural fumigant; a solvent for fats, oils and waxes; a metal degreaser; a spotting agent for textile cleaning; a chemical intermediate for use in resin manufacture and in other processes.

Diethylene Glycol—For use as a dehydrating agent for natural gas; a moistening agent for tobacco, glue and gelatin; a textile lubricant and coupling agent; a solvent in textile dyeing and printing; a constituent of hydraulic fluids; a heat transfer medium.

Monoethanolamine—For use as a gas scrubbing agent for recovery of hydrogen sulfide and carbon dioxide; a chemical intermediate in the manufacture of various surface active agents, rubber chemicals and other materials; a vehicle in the manufacture of antibiotics.

Diethanolamine—For use as an intermediate in the manufacture of surface active agents used in textile specialties, herbicides, petroleum demulsifiers, etc.; as a gas scrubber in refinery operations; as a rubber chemicals intermediate.

Triethanolamine—For use as an intermediate in the manufacture of surface active agents used in textile specialties, waxes and polishes, herbicides, petroleum demulsifiers, cosmetic preparations, cement additives, cutting oils, etc.; as a rubber chemicals intermediate.

Nonyl Phenol—For use as an anionic and nonionic surface active agent intermediate; as a starting material for the manufacture of lubricating oil additives, stabilizers, petroleum demulsifiers, oil-soluble phenolic resins and plasticizers.

Morpholine—For use in the manufacture of surface active agents, rubless waxes and polishes, rubber curing agents, corrosion inhibitors, antioxidants, catalysts, plasticizers, dyes, agricultural chemicals, separating agents, bactericides, pharmaceutical chemicals and textile lubricants.

Ethylene Carbonate—For use as a solvent for acrylonitrile polymers, lignin, nitrocellulose, nylon, vinylidene chloride-acrylonitrile copolymer, cellulose acetate and other polymeric materials; in the preparation of agricultural chemicals, resins, fungicides, pharmaceuticals and plasticizers.

Propylene Carbonate—For use in hydraulic fluids; as a solvent for cellulose resins, bisphenol resins and other polymeric materials; and as an intermediate in the preparation of agricultural chemicals, resins, fungicides, pharmaceuticals and plasticizers.

Glycerine Carbonate—For use as an intermediate in the production of glycidol; as a solvent for cellulose acetate, nylon, nitrocellulose and polyacrylonitrile; and as an extractive solvent in certain aliphatic and aromatic hydrocarbon separations. Available in trial lot quantities.

Polyethylene Glycols—For use in lotions and creams; vehicles for antibiotics, dentifrice active agents, antihistamines, antiseptics, fungicides, anesthetics, peroxides and sulfa drugs; lubricant for suppositories; and as an extender in cold hair-waving solutions.

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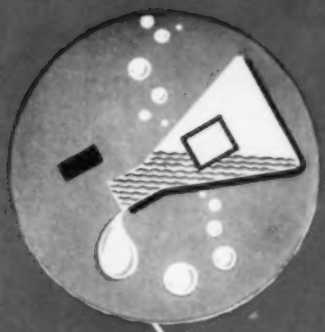

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Motion Sickness sufferers relieved by 'Marezine'

One of the widely known products being made by Burroughs Wellcome & Co., (U.S.A.) Inc., Tuckahoe, N.Y., is 'Marezine' brand Cyclizine Hydrochloride. Designed specifically as an anti-motion sickness remedy, 'Marezine' was the first such drug to be approved for over-the-counter sale. One of the world's first tablet manufacturers, Burroughs Wellcome has a number of Stokes tablet machines and auxiliaries in its plant producing 'Marezine' and other pharmaceutical specialty products.

Stokes has had over 50 years' experience in the design and application of pharmaceutical equipment. Through the Stokes Advisory Service, this background of engineering experience is made available to all pharmaceutical manufacturers for advice on formulations, production procedures, punch and die design and plant layout.

All recommendations by Stokes engineers are based on actual tests conducted in the fully equipped Stokes laboratory. Case histories of how this confidential service operates are contained in a new publication, Bulletin No. 640, describing the Stokes Laboratory and laboratory procedures. Catalog No. 600 describes the complete line of Stokes Pharmaceutical Equipment. We'll be glad to send both on request.

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Operator checks dimensions of a tablet produced by a Stokes BB-2 machine, one of a number of Stokes tablet machines in the plant of Burroughs Wellcome & Co., Tuckahoe, N.Y.

STOKES

Management Forum

by Francis Chilson

INDUSTRIAL CONSULTANT

Random Notes

A vacuum powder filler for all sorts of containers including flexible containers is being marketed by Packaging Industries, 50 Church St., Montclair, N. J.

A sift proof bag suitable for shipping poisonous or otherwise dangerous material has been developed by Betner Bag Co. The bag is called Duo-Tite. It is sealed by a combination of gluing and heat sealing. A machine to handle it has been placed on the market by the George H. Fry Co., New York. You can get more dope by writing Shellmar-Detner Flexible Packaging Division, Continental Can Co., 100 E. 42nd St., New York City.

General Electric recently published a photograph of six polyethylene bottles which had been subjected to a temperature of 250° F. for twenty minutes. Three of the bottles had been treated previously with high energy irradiation; the others had not. The containers that had been treated showed no evidence of malformation but the others had collapsed into shapeless masses. A most remarkable fact is that irradiation while it does something to the structure of polyethylene to give it heat resistance, does not affect the flexibility of the material. G. E. claims that electron beams are lethal to microorganisms. This combination of a heat sealable material and a method of sterilization that will not affect the shape of the container may yet enable us to apply the capsulating technique to the manufacture of ampoules. It is certainly worth a long look. G. E. will cooperate in making tests and will also rent a machine so that you can make your own. Write X-ray Department, General Electric Co., Milwaukee 1, Wisconsin. Rm. AO-24.

M-R.M. Co., 191 Berry St., Brooklyn, N.Y. 11 offers a filling and sealing machine for liquid products, especially designed for plastic containers. They offer a collapsible plastic tube filler as well.

A machine for washing glass cartridges and ampoules is made by Ampoule Machine Co., 38-09 24th St., Long Island City 1, N. Y.

A novel portable mixer suitable for mixing light pastes, ointments, creams, suspensions etc. is made by Gab Specialties Div. of E. Horton & Son Co., Windsor Locks, Conn. The unit comprises two impellors and a stator. Stator is contained within a mixing head. Material is forced upward through stator and discharges back into annular space between mixing head and tank wall. Looks good.

Allied Metal Hose Co., 3757 Ninth St., Long Island City 1, N. Y. offers all kinds of flexible metal hose for applications where flexibility is needed without loss of heat, pressure or corrosion resistance.

Phenoline 300 is made by Carboline Co., 335 Thornton Ave., St. Louis 19, Mo., and is said to be ideal for surfacing floors. It is available in several colors. It is highly resistant to acids, alkalis and solvents and can be applied over wood, brick or concrete. It can be troweled on, brushed on or sprayed on.

F. R. Hesser, Machinenfabrik Aktiengessellschaft, Stuttgart-Bad Cannstatt, Germany, is the mouthfilling name of one of the best packaging machine outfits in Germany. They build wrappers, carton printing and die stamping machines and special machines. Keep your eye on this outfit. They build slick stuff.

Lynch Corporation, Packaging Machine Division, Toledo 1, Ohio is expanding its line of adjustable automatic wrapping machines. Hitherto mostly used for butter and cracker wrapping, these machines are being adapted for wider applications.

Whenever you want to print any small object whether it is cylindrical, spherical, flat or irregular get in touch with Apex Machine Co., 14-13 118th St., College Point 56, N. Y. This firm makes such machines in handy table models, in semi-automatic models and complete automatic models. Imprinting in one or more colors can be done on ampoules, rouge boxes, col-

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This tablet design presented technical problems because of the difficulty in reproducing crisp, clearly defined letters upon the convex surface of tablets ranging in size down to ¼" diameter. These problems were successfully solved through the cooperative effort of Riker and Colton technicians and the Colton tooling faithfully retains the familiar, identifying characteristics of the Riker trade-mark. This compact Colton Tableting installation includes a Mixer, Wet Granulator, Ovens and high speed Rotary Tableting Presses. If you have any kind of tableting problem, we invite your inquiries.

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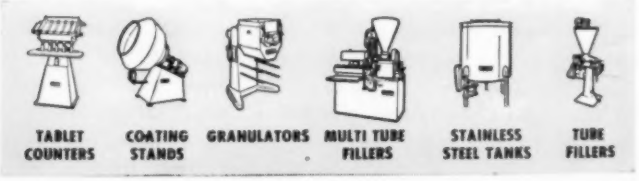

lapsible tubes etc. These machines will print on metal, glass, plastics, paper—anything.

Powder and granule filling by several methods including exact weighing is accomplished on machines made by Weigh Right Automatic Scale Co., Joliet, Ill. This firm also makes coupon or circular inserters, carton sealers, feed, bucket and can conveyors.

Special deals often require banding together two different containers as for instance a bottle and a carton. Dellenbarger Machine Co. Inc., 379 W. Broadway, N. Y. 12, offers a machine which bands different containers together in several different ways.

Hofliger & Karg, Stuttgart Bad Cannstatt, Germany turns out some fine packaging machinery for filling, ampoules, vials and other containers. They also make tablet counters, check weighing machines, vial closers etc. American Rep: Alfred Hoffman & Co., 635 59th St. West, New York, N. J.

Robo-Wrap is the name given by Counsel Machine Co., 8 Hathaway St., Wallington, N. J. to a new pillow package making and filling machine. The packages produced are similar to those produced by Transwrap.

National Equipment Corp., 153-157 Crosby St., New York 12 sells adjustable wrapping machines, automatic labelers etc. They are agents for some fine European machines.

Saga is the name given a specially designed Plastic, collapsible tube filling machine made by A. & M. Tool & Die Co., Inc., Foster St., Southbridge, Mass.

Post Machinery Co., Beverley, Mass. makes electronic counters of all kinds capable of counting up to 2000 per second. Presumably good for tablet counting.

Peg Says It Again

The following column, by Westbrook Pegler, was clipped from the Miami Herald. It is brought to your attention because in the column Peg summarizes and amplifies the evils I have hitherto pointed out in pension systems and also indicates what a gold mine of graft there is in government pensions systems.

"This is the proposition of all those who believe that the employer, including the national and lesser governments, should provide old-age pension accommodations for employees:

"I am entitled to special privilege.

"I am not competent to put aside a portion of my earnings as savings for my own senility. I lack the will power to deny myself luxuries and other extravagance. Therefore, my employer, who is actually 'The People,' must deduct a portion of my pay each payday and keep it away from me so that I will not spend it wastefully.

"The Social Security pensions established by Congress are not good enough for me. They are good enough for 'The People' but I am better than 'the people' and therefore deserve higher pension payments. These run as high as $75,000 in many private business corporations. In the government, they run as high as $450 a week. Congressmen, bureaucrats, judges, lawyers, income-tax fly-cops, governors, mayors and tax-consumers of countless other descriptions are eligible for these pensions. In joining these pension systems, we endorse the proposition that 'The People' are inferior creatures who have an obligation to contribute to our pensions and to guarantee them as a responsibility of the Treasury. The savings of the people are not guaranteed.

"When 'The People' have saved a little money by self-denial and invest it in shares of big corporations, they are actually paying for the privilege of providing corporation executives and wage employees with an income when they fall sick or retire. No matter how badly the stock depreciates the employee's pension continues. 'The People' may receive the sad news that there will be no dividends this quarter but they have to pay pensions out of the company's reserve. If it comes to the worst and the company's property is auctioned off at panic prices, the pensioners get first crack at the proceeds. This property is actually the property of the shareholders but the pension system gives the pensioners first crack. There may be nothing left and the shareowners may be wiped out. That would be very sad.

"It is true that I pay a small contribution to the pensions fund, Whether I am a Congressman, a judge or an employee of a private corporation. But it is also true that the taxpayers contribute to the government pension funds and the shareholders contribute to the corporation funds. However, the beneficiaries do not report these contributions in their income-tax returns. They certainly are income, accruing to their benefit and they are paid to their credit by their employers. If they die untimely, the benefits become 'estate' for their heirs. But we call them 'fringe-benefits.'

"Can you imagine Congress passing a law compelling Congressmen to report their accumulating pensions right as income? There is no other way to bring them into the income-tax system and Congress will not do it, so it won't be done. That fact protects the employees of private corporations, whether $100,000-a-year executives or $20-a-day wage-earners, from taxation on their 'fringes.' If Congress decided to tax their 'fringes,' the same principle would bring congressional 'fringes' within scope.

"However, 'The People' do pay income taxes on their compulsory contributions to public and corporate pensions. They are not deductible as charity donations or in any other guise. They amount to billions a year and appropriate income taxes on them would be a substantial contribution to the Treasury.

Earl Warren, our Chief Justice, is entitled to a large pension from the State of California, which he served as Governor and otherwise for many years. The state law prohibits disclosure to 'The People' of the amount that he or any other beneficiary receives. There is no moral obligation on him to tell and frankly the law holds that it is none of 'The People's' business.

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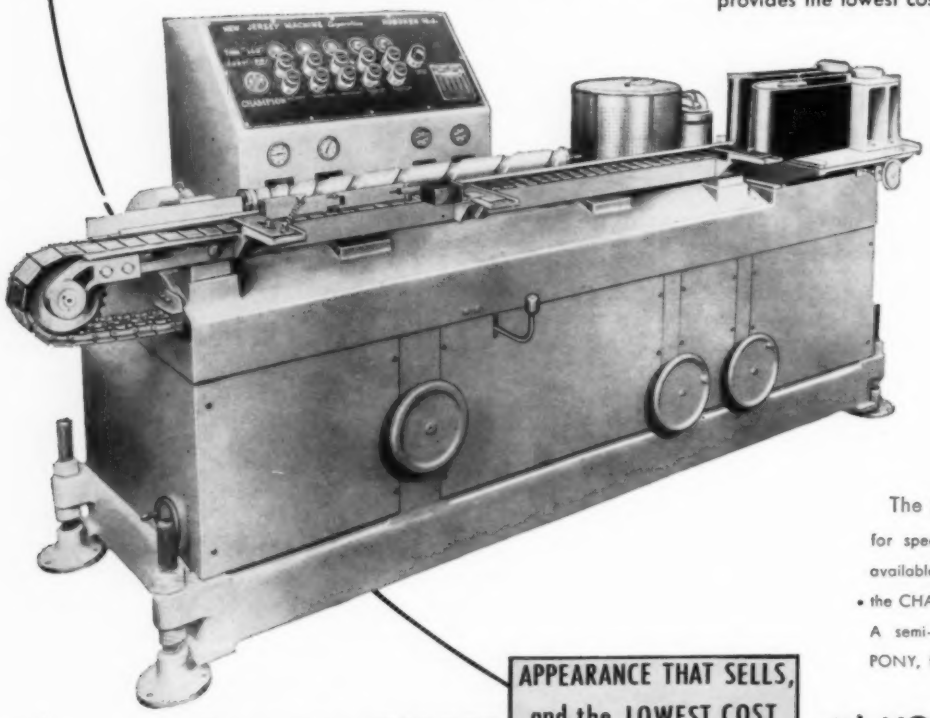
—and the Label-DRI® scores Bull's-eye against any other method!

It's the *only* ALL-AUTOMATIC labeling method. When you push the Starter button, *everything* works without lifting a finger! *Everything* from precision registry of the label to proper adhesive performance. Suction label-handling *guarantees* critically-exact label placement —and heat-sensitive, DRY adhesive *on the labels*, banishes all need for the "fix-and-mix" guesswork of glue consistency. *No machine that requires constant "hand-work" is* TRULY *automatic!* The *Label-DRI* needs NO hands—runs non-stop with perfect results, and provides the lowest cost of label-application!



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The *Label*-DRI CHAMPION for speed up to 300/minute. Also available in the *Label*-DRI family is • the CHALLENGER, up to 150/minute. A semi-automatic is offered, the PONY, for speed up to 60/minute.

554/5

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"However, you cannot keep such information absolutely secret and the fact is that Mr. Warren is 'entitled' to a little less than $1000 a month, in addition to his $40,000 a year from the federal government, which also carries accumulating pension privileges. Whether he does draw the California pension 'The People' of California are not allowed to know but there is no reason why he shouldn't. Why not? The law grants it to him. Secrecy makes for mystery and mystery makes for inaccuracy but it is fact that Mr. Warren's 'contribution' over the years was much less than one year's pension benefits.

"The highest old-age pension for 'The People' under Social Security is $162 a month but if a 'client' of this 'benefit' continues to earn by effort more than $2080 a year, he loses his $162 a month. The idea here was to prevent old people from taking little supplementary jobs as sitters, watchmen and what-not and thus forming a sort of coolie class doing petty chores for low wages and keeping youger people out of those jobs. However, a Congressman or mayor who takes his big pension—$20,000 a year in the case of Vincent Impellitteri when his rights mature in a couple of years—is not forbidden to take another job. He can practice law or go on the radio or any old thing, and his $20,000 a year will go right on.

"It is not as though 'The People' had contributed nothing to their Social Security. We all know they do, of course. Their employers contribute, too, and there you have another 'fringe benefit' which is tax-exempt.

"But the gall is found in the fact that practically the entire roster of public employees and the corporation pension beneficiaries frankly look down on 'The People' as suckers. The - - - of it is that 'The People' are."

New Labeler for Round Containers

A new semi-automatic labeler for round containers has been announced by The Atlantic Supply Company, Baltimore, Maryland. New features include an automatic label feed and a pivoted frame which opens for easy cleaning. The machine is designed for ease of operation and cleaning, and will handle a wide range of container sizes.

Unimixer Agitator

The Patterson Foundry and Machine Company of East Liverpool, Ohio, has added the Unimixer Agitator to its present line of mixing equipment. Standardized for volume production for lower cost to the user, the Unimixer is engineered for top performance over a wide range of liquid mixing applications.

It is available in one through five horsepower sizes. Geared or direct drives can be specified with centripoise propellers or multi-purpose turbines. Well suited for mixing, stirring, blending, coloring, thinning and tinting, dissolving, aerating, absorption of gases and suspension of solids, the unit can handle liquids up to 2000 centipoises in viscosity, and products containing semi-solids to be dissolved or otherwise processed.

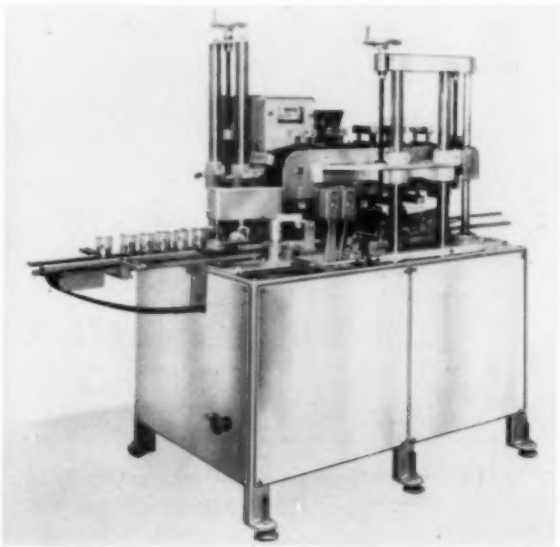
The pedestal and drive are of integral design. Heavy duty anti-friction thrust bearings are widely spaced on the shaft. The output shaft is extra heavy to take care of side thrust and bending stresses.

Noteworthy features include positive elimination of oil leakage around the shaft; and ease of interchanging the lower anti-friction bearing with a combination pressure type stuffing box with oil-less bronze bearing.

Additional details on the Unimixer may be obtained from the Patterson Foundry and Machine Company, East Liverpool, Ohio.

New Concept in Automatic Labeling Technique

MRM Company, Inc., has produced a labeling machine that is a radical departure from conventional methods of machine operation. It is capable of changeover from any shape or size label from a fraction of an inch to 6″ x 6″ (or larger) in a matter of minutes. Changing from one size container to another is done in about 15 minutes and requires an absolute minimum of interchangeable parts due to the uniqueness of the machine's design. There is absolutely no problem apply-



ing labels to flat, curved or recessed surfaces and the coating never oozes out to the edges. This feature eliminates the need for wiping off excess adhesives so common in labeling processes. Another feature is the quick changeover from glue to thermoplastic operation. Several of these machines are now installed in key industries. All of the new labeling developments are covered by patents. MRM Company, Inc., 191 Berry Street, Brooklyn 11, New York.

Capping Glass Aerosols

A portable capping machine for sealing aluminum caps on glass Aerosol bottles has been announced by Builder's Sheet Metal Works, Inc., 108 Wooster Street, New York, N. Y. This machine was designed for laboratory and small production use. Manually fed and

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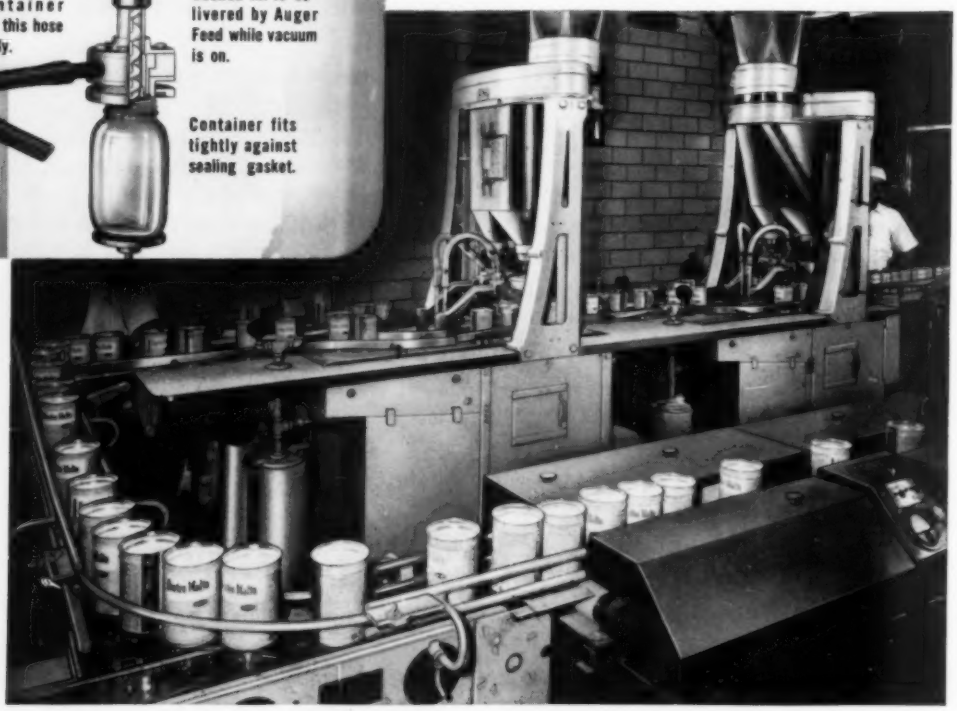
with Stokes & Smith Fillers

AUGER-VAC—HOW IT WORKS
Vacuum is drawn on container through this hose assembly.
Desired fill is delivered by Auger Feed while vacuum is on.
Container fits tightly against sealing gasket.



One-pound cans of ®Dextri-Maltose are filled at a speed of 120 per minute with this Stokes & Smith Four-Station Automatic Filling Machine, at Mead Johnson Company, Evansville, Indiana.

Stokes & Smith modern Auger-Vac filling equipment protects profits by maintaining a clean, accurate fill, and reducing dusting loss to an absolute minimum.

Powdered coffee, cocoa, powdered milk, dehydrated foods and other products are tightly packed by Auger-Vac heads which can be individually adjusted while machine is running. Vacuum is first drawn on container and the desired fill then delivered by auger, accurately, without dusting. Stokes & Smith Model HG 86-87 will take containers up to one pound. For larger cans, up to five pounds, the single unit Universal Filling Machine is used. Write today for details on the complete line of Stokes & Smith Filling Equipment.

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operated and powered by a standard drill press, it has a capacity of approximately 100 cycles per hour.

The model handles standard .875″ O. D. caps on bottles of any shape and heights up to 6″. However, it can be readily adapted to specific requirements beyond these limits. Priced at $190.00, F.O.B., New York.

New Attachment Imprints Top of Cans, Cartons and Boxes

A compact new solenoid-operated, microswitch-activated machine for imprinting contents descriptions, varieties, code-dates and other identification legends on the tops of cans, cartons, boxes as well as certain types of products, has been developed by Adolph Gottscho, Inc. It is designed to place sharp, clean and consistently uniform imprints on the package, and to locate or register their positions with extreme accuracy.

The new unit, according to the manufacturer, incorporates a number of new principles that make it especially suitable for many production-line imprinting purposes where other types of machines are not feasible, and insure an unusually high degree of print quality and accuracy not possible with conventional marking machines.

Known as the Gottscho "Model 722" Rolaprinter, the machine is unusually small and space-saving. It can be readily mounted in idle space on an existing packaging or production machine or on a conveyor line to imprint packages or products as an integral part of some other production operation. Employing the basic flexographic printing system, the "Model 722" Rolaprinter machine uses quick-drying inks of almost any color, and suitable for almost any surface—slick or porous, soft or hard. The unit has inking rollers which rotate continuously in the ink fountain to maintain proper printing consistency of the ink at all times. However, the type or die on the imprinting cylinder is inked only before it actually makes an impression, thus preventing a buildup of ink on the die and assuring finer imprints.

The new Rolaprinter machine is equipped with variable speed control so that its speed of operation may be perfectly synchronized with the surface speeds of objects to be imprinted. Nevertheless, because of the unit's controlled imprinting cycle, imprints appear in identical preselected locations on the package regardless of whether the flow of packages is a steady or intermittent stream, and whether spacing between them is regular or irregular. Positioning or registering the imprint on the package is accomplished very easily and quickly, and this is also true of adjusting the imprinter for packages of different size or dimensions. Type or die changes can be made in a matter of minutes by unskilled personnel.

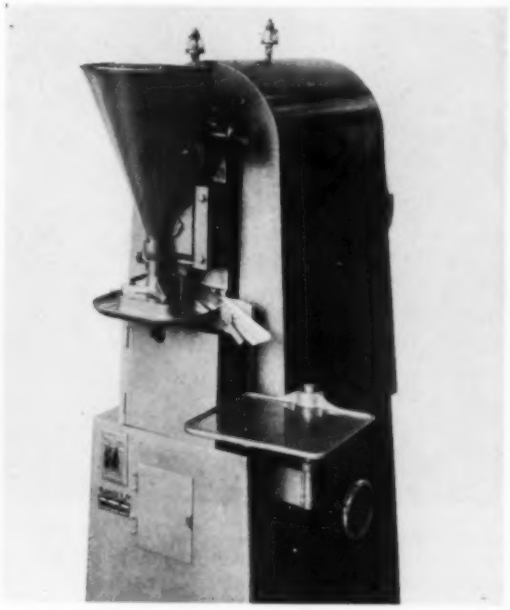
Once set up for a particular run the imprinting machine operates automatically without any attention. Under normal conditions, replenishment of the unit's ink supply is necessary no oftener than once a day, and daily clean-up of the machine can be done in a few minutes because of its simplified design.

Complete details on the "Model 722" Rolaprinter machine may be obtained from Adolph Gottscho, Inc., Hillside 5, N. J.

Single-Punch Tabletting Press

F. J. Stokes Machine Company, Philadelphia, Pa., has added a new fully-enclosed 4-ton single-punch tabletting press to its line. Enclosure of the working parts of this improved and modernized Model F compacting machine facilitates cleaning, and provides greater protection to the mechanism. The result is longer life and fewer parts replacements.

The new Model F machine makes tablets up to ¾ inch in diameter and has a depth of fill up to 11/16 inch. Production runs from 55 to 105 tablets per minute.



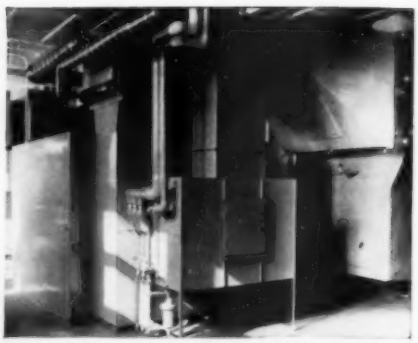
A stationary core rod can be incorporated if desired, as well as such special features as a plunger spring pull-down, a guided lower plunger, and a hardened table top. A starting switch is furnished as an integral component of the press.

New Dual-Type Demineralizer

A dual-type demineralizing unit, designated as Model R-M-8, has just been announced by the Penfield Manufacturing Co., Inc. of Meriden, Conn. This new mono-column demineralizer can be used with a single bed of mixed cation and anion resins, or as a two-bed system with separate cation and anion resin beds in the single column.

With either system, the unit produces up to 10 GPH of demineralized water with as little as 10 grains sodium chlorides (expressed as $CaCO_3$). If desired, the unit is capable of removing silica and CO_2 as well, through the use of special resins. Regeneration is simple and fast with costs of regenerant chemicals only about 10c.

Lectrodryers serve low humidity areas in Pfizer plants all over the world



This air-conditioning type Lectrodryer maintains a constant 10% relative humidity in the antibiotic filtration room at the Groton, Connecticut, plant of Chas. Pfizer & Co., Inc.

Keeping relative humidity as low as 10%

The battle against contamination may be lost if control of vaporous moisture is not pinned down. Your best weapon is a Lectrodryer*. It can maintain bone-dry conditions in a room, over a process, throughout a laboratory and in air or gas lines . . . without disturbing required sterility. It reduces moisture to a harmless level below the point where hygroscopic materials would be affected or their flow interrupted.

Lectrodryers are helping to protect Pfizer quality in the United States, England, Belgium, Spain, Japan and South America.

Lectrodryers use Activated Aluminas to adsorb moisture from air, other gases and organic liquids. They efficiently reduce dewpoints to below −100°F . . . reduce relative humidity to as low as 5%. They can work under pressures as high as 6000 psi. Maintenance is minimized because these machines have few moving parts and Activated Aluminas will not wear out.

Perhaps you can benefit by reading Lectrodryer literature or talking with Lectrodryer engineers. Write for *Because Moisture Isn't Pink*, a booklet describing how industries are using Lectrodryers. Request any DRYness engineering information. Pittsburgh Lectrodryer Corporation, 309 32nd Street, Pittsburgh 30, Pennsylvania.

In England: Birlec, Limited, Tyburn Road, Erdington, Birmingham.
In France: Stein et Roubaix, 24 Rue Erlanger, Paris XVI.
In Belgium: S. A. Belge Stein et Roubaix, 320 Rue du Moulin, Bressoux-Liege.

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The R-M-8 is a self-contained, completely packaged unit which is ready for immediate use upon connection to raw water source. It is equipped with a Penfield precision-type needle valve, drain cock, built-in Penfield Purity Meter, and all necessary influent and effluent piping. The unit may be mounted easily on a wall. Where preferred, a small counter stand is available for bench use.

The Armed Services Medical Procurement Agency has purchased several hundred of these new Penfield units for service in field hospitals, pharmacies and stations throughout the world. Complete information on the R-M-8 may be secured by writing Mr. Edw. H. Clohessy, Gen. M'gr, Penfield Manufacturing Co., Inc., 19 High School Ave., Meriden, Conn.

New Single Rotary Tablet Presses

Two newly redesigned single rotary tablet presses capable of producing 36,000 psi maximum pressure for fast, economical production of all kinds of tablets from powders and granulations and for preforming plastic materials are now available from Arthur Colton Company, Division Snyder Tool and Engineering Company, 3400 E. Lafayette Ave., Detroit 7, Michigan. These presses have double the tonnage capacity of former models and can be used for high speed tablet production as well as for slugging.

Designated Models 240RP and 250RP, the new presses incorporate 3-hp totally enclosed, ball bearing, fan-cooled variable speed motor drives which provide a broad range of operating speeds to suit a wide variety of tablet material. Model 240RP is a 16-station rotary tablet press on which tableting or heavy slugging operations can be performed at pressures up to the new high maximum (36,000 psi) and at rates up to 700 per minute. Rates up to 600 per minute are possible on Model 250RP, a 12-station press. Model 240RP can handle tablets up to 1-in. maximum diameter and has a 13/16-in. fill depth; 1-¼-in. maximum tablet diameter and 1-1/8-in. fill depth is the Model 250RP specification.

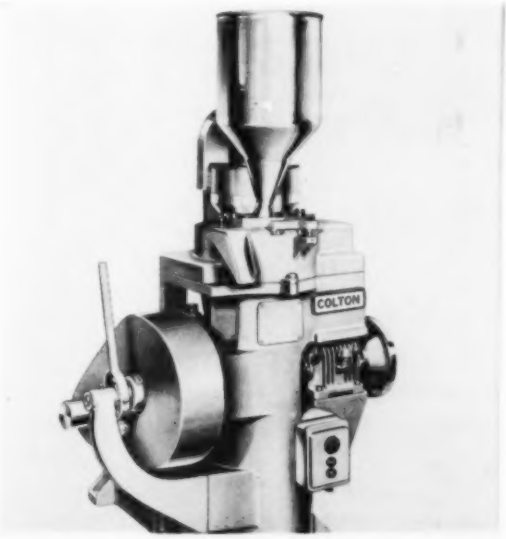
A micrometer die cell adjustment, standard with both units, insures accurate, consistent tablet weight. Precise control of granulation is achieved with a three-point feed frame mounting with simplified lateral and longitudinal adjustments.

DETAILS OF CONSTRUCTION

High strength and rigidity are achieved with a heavy-duty cast pedestal type base construction. The upper portion of the new presses contains an oversize pressure roll pin-and-bushing assembly with a heavily ribbed steel backing plate support. An anti-friction bearing mounting is provided for the rotary head. Power is transmitted to the head through a disc type clutch. An automatic, adjustable excess pressure release protects machine elements from accidental damage. The main drive for rotary head includes an hour-glass type cone worm and gear reducer unit which is totally enclosed and runs in oil. A special high-speed drive counter-shaft eliminates the need for an extra weight flywheel and permits use of a standard motor.

The extra-heavy construction, worm reducer drive and automatic overload protection combine to make possible the extreme pressure range which gives these new rotary tablet presses pronounced advantages for heavy slugging and large-size tablet production.

Die tables are of long-wearing steel construction with tensile strength far greater than cast iron. Simplified punch removal and 16-gauge stainless steel welded hopper construction are additional features. By the simple loosening of one setscrew clamp and one snap fastener, complete accessibility to lower and upper punches and cam tracks is provided. Adjustments for depth of fill and pressure are within easy reach of the operator.



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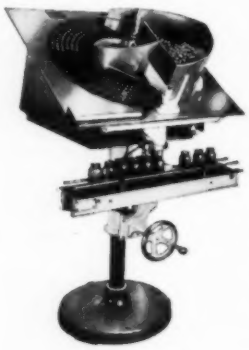

TAB-COUNT
Model T-403

The PerfeKtum Tab-Count, Model T-403 provides an automatic conveyor system for accurate high speed tablet and capsule counting and filling. Efficient, economical production up to 30 bottles of 100 count per minute is now available to any tablet or capsule plant at a fraction of the cost of conventional automatic Tablet Counters.

For shorter runs and smaller plants, two semi-automatic Tab - Counts may better suit your requirements.

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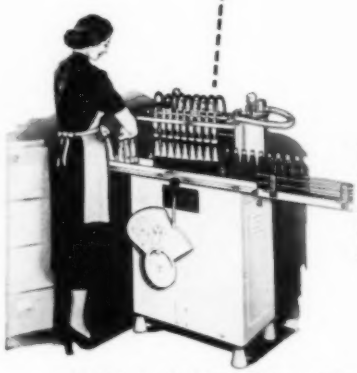
Model B-2 Vacuum Filler

provides efficient continuous production, filling two containers at a time. Handles a wide variety of liquids and semi-liquids. Has automatic product supply; vacuum is adjustable and flow regulated for accurate, clean filling. Fills a wide range of containers up to 4⅛" dia. round or rectangular. Send for Bulletin B-2.



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Model B-49 Straightline Vacuum Filler

for liquids and semi-liquids. Most automatic one-operator multiple filler. Operates with or without discharge conveyor. Filling proceeds automatically while empties are loaded. Easy operating lever activates container feed and discharge; otherwise operation is completely automatic. Adjustable for container sizes from AGST to gallon size finishes. A dependable machine where filling cost is a factor. For full details, send for Bulletin B-49.

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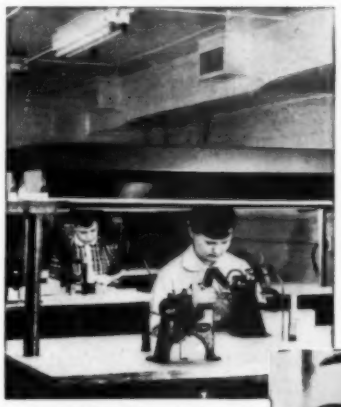

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Compounder's Corner

Society of Cosmetic Chemists

The papers presented at the semi-annual meeting of the Society of Cosmetic Chemists on May 13 were divided into two categories. During the morning session, the subjects were primarily physical and chemical while the afternoon session was devoted to the changes taking place in skin on aging. The first papers will be abstracted in this department, while abstracts of the physiologic papers will be found in "Skin Research."

W. B. Baker presented a paper on the *Topical Uses of Several Antibiotics.* The major objective of this paper was to review salient features of bacitracin, neomycin and tyrothricin, and to present the status of some of the vehicles or bases that have been employed with them. Also, some vehicle formulas similar to those which have been employed for other chemical agents and drugs, such as sulfonamides, were suggested as being adaptable for use with these antibiotics.

Various literature reports dealing generally with the above antibiotics have included the subject of bases. Some investigators have given logical reasons for preferring grease bases for topical application of medicaments, while others have favored aqueous bases where possible. Still others apparently do not think the nature of the base important because, in discussing applications and results, they mention that they use "an ointment, etc.," but do not state the formula.

When employed topically, bacitracin, neomycin, and tyrothricin are virtually non-toxic and have documented records of extremely low incidences of sensitivity and resistance development.

Where it is desirable to study this interesting trio of antibiotics, and to limit the study to their topical possibilities in other than medical and pharmaceutical fields, it is first desirable to review not only the vehicles or bases in which they have been or may be, incorporated; but also the properties and applications which make these agents useful and important. Such fundamental data, of course, would make the study more valuable.

Acetylated Lanolin Derivatives were discussed in a paper by L. I. Conrad and K. Motiuk.

The past few years have seen a greatly expanded interest in lanolin and lanolin derivatives. A review of the literature on lanolin reveals that up to the present, derivatives were prepared by reactions involving the unsaturated bonds and ester linkages.

The acetylated lanolin derivatives represent a practical application of recently developed concepts of lanolin composition. They are prepared by reacting the hydroxyls to form acetylated lanolin hydroxyesters and alcohols. The chemistry of these derivatives was described in detail. They have been introduced into the fields of cosmetics and pharmaceuticals because of their interesting new properties. Physical and chemical data and dermatological characteristics were discussed as well as formulation in various types of cosmetic preparations.

Two papers were concerned with the problem of foam in cosmetic detergent preparations. M. B. Epstein discussed *Foam Transition and Foam Persistence* with relation to the selection of detergent materials for cosmetic use.

Some elementary properties of foam were considered and experiments with the flow of detergent solution through a column of foam at various temperatures were outlined. The effect of transition due to the presence of additives was shown and the results considered with reference to foam persistence.

The paper by A. Wilson, *Film Properties and Compound Formation in the Sodium Lauryl Sulfate-Lauryl Alcohol-Water System,* was a review of previously published work and dealt with some quantitative aspects of simple experiments useful to cosmetic chemists for the evaluation of foam properties by single film techniques. The general requirements for the production of slow draining foams and films, which are known in the trade as "creamy," and fast-draining films and foams, i.e., "lacy," were given.

The nature of the interactions between detergents and long chain polar additives which lead to the formation of slow draining films of high surface viscosities was discussed and a simple explanation of the detailed results offered.

The formulator of commercial shampoos and other cosmetic foamers is interested in producing systems which will be slow draining at use temperatures and therefore strives to obtain the detergent-additive ratio which will give the highest transition temperature at use concentrations.

Intermolecular compounds have been isolated from alcohol sulfate—alcohol systems having the following compositions: 1 mole alcohol sulfate: 1 mole alcohol and 2 moles alcohol sulfate: 1 mole alcohol.

Determining Ascorbic Acid

Estimation of ascorbic acid with 2,6-dichlorophenolindophenol is limited by the presence of interfering substances such as reductones and reductic acid. Slow reducing substances that may be present in biological fluids render the end point less distinct. This defect induced Barakat, El-Wahab and El-Sadr (*Anal. Chem.* 27:536, 1955) to investigate the estimation of ascorbic acid by *N*-bromosuccinimide, the oxidizing action of which might be selective. The fact that ascorbic acid is selectively oxidized by *N*-bromosuccinimide before other reducing substances that may be present provides a reliable titrimetric method of extensive applicability. The proposed method is simple, rapid, and sufficiently sensitive to determine a concentration as low as 7.04 γ of ascorbic acid per milliliter. The experimental error does not exceed ± 2 per cent.

New Antacid Compound

The new compound, dihydroxy aluminum sodium carbonate, has been prepared by J. M. Grote, J. M. Holbert and M. Fox (*J. Am. Pharm. Assoc. Sci. Ed.* 44:219, 1955) and its properties as a possible gastric antacid studied. Dihydroxy aluminum sodium carbonate is a white, rather fluffy solid almost de-

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Leading perfumers have found that Nicotinia Verley provides exciting effects when used as a blender in floral bouquets and exotic compositions — or used alone in powders, creams, lotions, and other toilet preparations.

Discover the possibilities of Nicotinia Verley lending a distinctive floral character to some of *your* formulas. Write today for a working sample.

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void of taste. It is insoluble in water and the usual organic solvents but dissolves readily in dilute acid with the release of carbon dioxide. It possesses many of the properties of both sodium bicarbonate and aluminum hydroxide. Like sodium bicarbonate it neutralizes acid rapidly with the release of carbon dioxide but unlike sodium bicarbonate does not result in a *p*H on the alkaline side. It also exhibits the prolonged neutralizing power and buffering action of aluminum hydroxide gel.

Purified samples of dihydroxy aluminum sodium carbonate show an average acid-consuming power of 267 cc. of 0.1 *N* acid per gram on the dry basis. This is contrasted to a theoretical acid consumption of 278 cc. of 0.1 *N* acid per gram when based on the suggested formula. The compound produces a rapid neutralization to a *p*H of approximately four and maintains a *p*H of above three for at least two hours under the conditions of the test. The oral ingestion of dihydroxy aluminum sodium carbonate by humans should lead to prompt and prolonged buffering of gastric acid. Clinical results to date have borne out this prediction.

Promulgen

Promulgen is a polyethylene glycol ether complex of high molecular weight fatty alcohols being offered by Robinson-Wagner Company, Inc. It has a much stronger tendency to concentrate at oil-water inferfaces than low molecular weight agents of analogous structure and similar polar/nonpolar balance. Its molecule has been modified to increase hydrophilic properties without unduly reducing lipophilic characteristics. This balances the water solubility properties with dispersibility in fats.

Promulgen is a nonionic o/w emulsifier with sufficient surface activity to emulsify and stabilize systems susceptible to instability. It is far more stable than fatty acid esters over a wide range of unfavorable conditions. It forms emulsions with long term stability that tolerate large amounts of salts of mono and polyvalent metals, anionic and cationic medicaments and other additives that tend to affect equilibrium adversely.

The advantages of a powerful, versatile emulsifier become immediately apparent in the formulation of preparations containing substantial quantities of powders, pigments, metallic salts and other ingredients that tend to destabilize emulsion equilibrium. The advantages are even more pronounced in liquid emulsions which are inherently more difficult to stabilize in the presence of electrolytes. This is particularly true of antiperspirant, deodorant and cold wave lotions.

	Lotion	*Cream*
Promulgen	2	6
Aluminum Hydroxy Chloride Complex	40	40
Mineral Oil	10	9
Glycerine	2	3
Water	46	42

Sun Screen Evaluation

Experiments designed to evaluate the sunscreening properties of a group of five compounds were performed by L. C. Harver (*J. Invest. Dermatol.* 23:427, 1954). The compounds were tested for their capacity to prevent erythema caused by exposure to the ultraviolet lamp and to natural sunlight. Although all compounds tested showed some screening ability, their degree of effectiveness fell into two groups:

Both tannic acid and para aminobenzoic acid were the best of the agents tested; in five per cent solutions, tannic acid was slightly the better of the two.

No significant differences could be established for phenyl salicylate, glyceryl para aminobenzoate or menthyl anthranilate but there was some reason to believe that the last named compound was the poorest of those tested.

Pharmaceutical Gums

Ten natural and synthetic gums—tragacanth, karaya, locust bean, Jaguar, Kelgin, Kraystay, methylcellulose, sodium carboxymethylcellulose, Veegum and Thix—were evaluated by H. H. Hutchins and R. E. Singiser (*J. Am. Pharm. Assoc. Pract. Ed.* 16:226, 1955) for use as jelly bases. Simplified methods of preparation for the jellies are given and observations of some physical properties such as color, viscosity, pH, spreadability, drying and film-forming characteristics were noted. Six common medicinal agents were incorporated into each of the jelly cases and compatibility and storage stability at 40° C. studied.

Addition of glycerine or propylene glycol in the jellies decreased lump formation but retarded the rate of gelation. Glycerine yielded a more viscous preparation with a slower gel rate than propylene glycol.

Preparations containing surfactants possessed superior wetting properties and better spreadability than jellies without such agents.

All of the jelly bases were found to be subject to microbial action. but this can be overcome by the use of preservatives. Aside from their preservative properties, solutions of the alkyl p-hydroxybenzoates appeared to produce more viscous jellies with an increased rate of gelation.

Ascorbic Acid Syrup

Investigation of several bases as vehicles for ascorbic acid syrups by F. J. Bandelin and J. J. Tuschhoff (*J. Am. Pharm. Assoc. Pract. Ed.* 15:761, 1954) indicates that in concentrations of 25 mg. per teaspoonful and 100 mg. per teaspoonful, containing 20 per cent excess of ascorbic acid at a *p*H of approximately 3.0, losses up to 16 per cent of the ascorbic acid occurred over a period of one year in preparations stored at room temperature.

Vehicles investigated were: citric acid syrup U. S. P., a similar formulation with a wild cherry imitation flavor, and a sugar-free base composed of glycerin and sorbitol.

Loss of ascorbic acid at the higher concentration was relatively less, in all cases, than in the lower concentrations.

The glycerin-sorbitol base seemed somewhat better than the sucrose bases in that there were smaller losses of ascorbic acid.

Citric Acid Esters

The requirements for a cosmetic "oil" are fluidity, low volatility, water insolubility, sometimes certain solvent characteristics, and above all, low toxicity and low irritation index. These characteristics are possessed by the citrate esters available from Chas. Pfizer & Co., Inc., Brooklyn 6, New York, along with the absence of color and odor and with high stability against hydrolysis, and these esters may find useful application in cosmetic and make-up formulation.

Esters available on a production basis are the triethyl and the tributyl compounds and their acetylated derivatives, the butyl compounds having higher boiling points and lower solubility in water. Hexyl and octyl esters are also available for experimental purposes.

No information is presently available on the actual use of these compounds in cosmetics but they may have useful "thin film" and bromo acid solvent power in lipsticks and may have interesting emulsifying characteristics in creams and lotions. Speculatively, higher alcohol esters and higher fatty acid derivatives with greater oil solubility might also warrant investigation.

RUTGERS PHARMACEUTICAL CONFERENCE

(*Continued from page 772*)

"But do our publics—doctors, pharmacists and the general public know this? The answer beings us to the next ingredient in the recipe for good public relations, and the reason for these remarks—the matter of communications. For it is in its inattention to this essential ingredient that our industry has thus far failed, and is in danger of losing the battle by default.

"We don't have to wait for surveys to learn that we have a public relations problem with the pharmacist in regard to substitution. We don't have to wait for surveys to learn that we have a public relations problem with the doctor in regard to volume of mail and samples. We don't have to wait for surveys to learn that we have a public relations problem when it comes to prices.

"I suggest, as a first step, that the leaders of the industry set up a steering committee composed of their own public relations people.

"I suggest that this group, in turn, be empowered to set up within the framework of one of the trade organizations, a public relations office, with a modest but adequate staff, to serve as watchdog and spokesman for the common interests of the industry.

"In creating such an office, it's obvious that we should find a man to head it whose skill and integrity we trust, and to whom we're willing to delegate, with a minimum of interference or direction or committee meddling, the projection to the public of our story.

"We need to nail down in the public consciousness the indispensable role the pharmaceutical industry has played in adding twenty-five years to the American life span in two generations. We've let our credit go by default.

"As for our present activities, we need to remind the public and to remind them again, of the extent and nature of our continuing adventures in research, as we work in our laboratories and take our long shots and calculated risks, in the development of new drugs for the improvement of the nation's health."

Consumer Survey

Howard A. Trumbull, President of National Family Opinion, Inc., presented results of a survey of consumer habits and thoughts with respect to the drug industry. More than 90 per cent of consumers considered the pharmacist to be a professional man rather than a merchant. There was a high degree of loyalty to the pharmacist, 80 per cent of customers patronized one drug store more than any other. Twenty-six per cent of those questioned visited drug stores weekly, while 17 per cent visited the store more than once a week. Sixty-seven per cent preferred one store because of convenience of location while 54 per cent based their preference on confidence in the pharmacist. The questionnaire responses strongly indicated that shopping from store to store for prescription filling was negligible.

Only 22 per cent of the subjects considered that drug costs were higher relatively than other items in the cost of living. Only 17 per cent thought the physician received money or other consideration for recommending a specific pharmacist and only 29 per cent preferred to have prescriptions filled in a store which specialized in prescriptions exclusively.

PACKAGE MERCHANDISING WINS MARKETS FOR ACME PRODUCTS

(*Continued from page 777*)

ploying slanting letters for the "Zip-Strip" bandages to imply the quick application and removal of this type of bandage.

There was also the problem of distinguishing between the regular bandages and plasters and the waterproof items. We solved this problem by incorporating a special insignia—an illustration of a duck protected by an umbrella—in the packages for the waterproof items.

In addition to their distinctiveness and appropriateness the Acme packages are:

1. Building prestige for the manufacturer.
2. Serving the convenience of the customer better—making for accurate, speedy selection by the customer.
3. Making for better mass display of the entire line.
4. Attracting more self-service and impulse sales.
5. Simplifying stockkeeping for the dealer.
6. Cutting packaging costs for the manufacturer—inasmuch as such a basic and flexible design eliminates costly color combinations and runs and the need for complex production plates.

To a client who is in the process of winning consumer acceptance and building markets we always advise, "As quickly as possible, establish strong brand individuality by packaging your family of products distinctively. There are disadvantages in aping the packages of large nationally advertised competitors. As you grow sales volume-wise, you find it a handicap if your packages and those of competitors are too similar. Your basic objective is to win consumer preference and fresh, smart packaging is a 'must' in the achievement of it."

PATENT THOUGHTS AND TRENDS

(*Continued from page 801*)

Recent Patents

2,703,798—**Comm. Solvents—Detergents from N-Monoalkyl-Glucamines.**

2,703,799—**G. D. Searle—9α - Halo - 11 - OxO - 16α, 17α-Epoxyprogesterones.**

2,703,803—**G. D. Searle—Xanthinealkanoates of Diarylmethoxy-Alkyldialkylamines.**

2,703,805—**Syntex (Mexico) — Cyclopentanophenanthrenes.**

(*Continued on page 846*)

THE CHINESE MERCHANT PRINCE

In a far-off land a merchant prince by the name of Fray Grins had received all three blessings . . . he was wealthy, healthy and wise. His sons went to the best schools, his daughters married the most eligible men, his wife had the most sparkling jewels, and he, himself, collected rare editions of esoteric books.

Fray Grins' wealth came from the manufacture and sale of perfumes. His packages were masterpieces, his perfumes were known throughout the world,and the wealth of Fray Grins, like the proverbial Break-The-Bank, grew and grew, and grew. But all things must end and so, too, did his life at the august age of eighty four less two moons. His eldest son took over and decided that profits must be larger. A little less perfume here, a little cheaper oil there and "qui sait" as the French say.

The firm of Fray Grins no longer bought from the best houses. Then they no longer bought from any house—they went out of business. And the sparkling jewels and the rare editions were sold to the highest bidders.

• • •

If there be a moral to this tale we would conclude that it is "Shortcut in Quality is False Economy". . . Yet we would be bold to say that at Syntomatic we feel there is a practical parallel in combining top quality with true economy. Prove it? Our pleasure . . . Syntomatic Corporation, 114 East 32nd Street, New York 16, New York. MUrray Hill 3-7618.

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. Uniformity	. No "Fishy Burp"

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Advancing Therapy

Psychosis Antagonist

Clinical observations on Meratran, alpha-(2-piperidyl) benzhydrol hydrochloride, showed that it differs significantly from other central nervous system stimulants such as the amphetamines. No cardiovascular pressor reactions, no appetite loss, and little disturbance in nocturnal sleep have been observed with this compound, which may be used therapeutically in mild depressive states as well as in narcolepsy and certain selected motor tic syndromes.

Clinical and experimental results suggested that other compounds of similar chemical configuration might also be of value as therapeutic agents in disorders of the central nervous system. Brown and Werner found that the gamma-isomer of Meratran, alpha-(4-piperidyl) benzhydrol hydrochloride, prevents or diminishes central stimulation induced in the mouse by various agents, including amphetamine, morphine, cocaine, and Meratran.

A study was initiated by H. D. Fabing (*Science* 121:208, 1955) to determine the action of this gamma Meratran clinically; it was found to be of value, but inconsistent in treating some cases of acute schizophrenia, alcoholic hallucinosis and some chronic schizophrenic syndromes. It was then used as a pretreatment to block psychoses produced by lysergic acid diethylamide (LSD-25). The drug proved to be dramatically effective in preventing psychoses, but did not block the other actions, such as numbness, dry mouth, etc. A more recent observation on two subjects in which mescaline sulfate was used suggests that that this type of model psychosis can also be blocked.

Hypnotic Potentiation

In mice, intraperitoneal doses of salicylamide and phenacetin which were ineffective when given singly produced hypnosis of considerable duration when given together according to F. M. Berger (*Proc. Soc. Exptl. Biol. Med.* 87: 449, 1954; through *C.A.*). An analysis of the synergism indicates potentiation when the drugs are administered in terms of their median doses causing loss of the righting reflex. When they are given in terms of their M.L.D.'s an incompletely additive effect is obtained. Benzamide and benzenesulfonamide also produced hypnosis when given with phenacetin but were less active than salicylamide. *m* - Hydroxybenzamide and *p*-hydroxybenzamide were ineffective when given with phenacetin and so were acetamide, *o*-phthalamide, 2-furamide, nicotinamide, gentisamide; salicylic, gentisic, acetylsalicylic, and *p*-aminobenzoic acids; phenyl salicylate, *p*-acetamidophenyl salicylate, antipyrine, aminopurine, and pyribenzamine. Antipyrine, aminopyrine, and *p*-aminophenol in certain doses produced hypnosis of short duration when given with salicylamide.

Obesity

Obesity is generally recognized as a serious health hazard. It is now believed that some central nervous system control, as yet not well understood, determines the average body weight of most adults. Because all overweight persons are not overweight for the same reason it is necessary to find the cause before attempting to plan a therapeutic regimen. The older theories that attributed obesity to an endocrine disturbance have been shown to be erroneous. In most cases overweight is not the result of any organic disease. Although the idea that obesity may be voluntarily controlled by reduction in caloric intake is implicit in many popular articles and is held by many physicians, this theory appears to be an oversimplification at best.

By far the commonest cause of obesity, however, appears to be emotional conflict. In this category too there may be a variety of causes. Whatever the cause, restricting the intake of food does not alter the urge to eat.

A person who has reduced his caloric intake and has lost a few pounds may have an increased feeling of well-being, but, as he continues his efforts to reduce, an uncontrollable hunger sets in so that he becomes obsessed with thoughts of food. Such a patient's endurance rarely lasts longer than three or four weeks.

No drug has yet been discovered that will safely and effectively control the appetite, but that one may yet appear is certainly possible. Although a predictable loss of weight can be produced in any obese person by giving a low caloric diet under strict supervision, the problem of how to maintain the loss is still with us. This fact is never mentioned in reports of success with various reducing fads. Follow-up studies have proved very disappointing. According to Conrad, group psychotherapy has shown some promise, but others have reluctantly concluded that it is easier to make a fat man happy by means of psychotherapy than to make him thin. Reducing is at best a long, hard process fraught with frustration, failure, mental torture, and painful hunger contractions.—*J.A.M.A.* 157:1126, 1955.

Short-Acting Thiobarbiturate

Baytenal is a new very short-acting anesthetic which is apparently eliminated from the body so rapidly that its administration is followed by little if any postanesthetic somnolence and confusion. The drug is sodium 5,5-allyl-(2-methylpropyl)-thiobarbiturate. It is available as a powder which is readily soluble in water and is administered as a 10 per cent solution which is stable for 36 hours. Nobes (*Lancet* 268:797, 1955) tested the drug in 11 patients and a healthy volunteer and confirmed the findings of Weese and Koss who observed 350 cases. Because of freedom from excitement, the slight respiratory depression and the very rapid elimination of the drug, patients needed no supervision after the operation; there were no complications and patients were able to leave the operating room a few minutes after the conclusion of the operation.

Animal Virus Growth in Plants

According to a paper presented by Murphy and Syverton at the April meeting of the Federation of American Societies for Experimental Biology, an animal virus has been transferred to a plant for the first time. Using plants grown by hydroponic methods, the

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University of Minnesota investigators observed the absorption of mouse encephalomyelitis virus by the plant roots and the transportation of the live virus into the leaves. Whether or not the virus was altered in virulence or other characteristics by this transplantation has not yet been determined, and efforts are now being made to transfer human poliomyelitis virus to plants.

Comment: Virus growth requires the presence of living cells and up to now these have been exclusively, for animal viruses, living animal cells. This new work suggests several possibilities: live cells of plant origin may be used as general culture media for virus research, perhaps resulting in easier and more convenient research procedures; plant cells may provide culture vehicles for pathogenic viruses and lead to cheaper, safer media for vaccine production; the transplantation of animal viruses to plant cells, may, by change in environment, cause attenuation with the consequent advantages of antibody formation by live, harmless bacteria for protection against the virulent form.

Reserpine from Rauwolfia Canescens

Reserpine, rauwolscine and alstonine have been extracted from *Rauwolfia hirsuta* Jacq. or R. canescens which grows on the Atlantic coast and other regions of Colombia, according to B. V. Vergara (*J.A.C.S.* 77:1864, 1955).

Two kg. of the powdered root were extracted with methanol, and the solution treated with water and extracted with chloroform. Chromatographic treatment yielded one gram of crystalline reserpine. Further treatment of the aqueous methanolic extract gave 10 grams of rauwolscine and one gram of alstonine.

Comment: If the root is abundant and easily available, it can certainly serve as a Western Hemisphere source, unaffected by Indian export restrictions, for increasing requirements for reserpine.

Non-Barbiturate Hypnotic

Valmid, ethinylcyclohexyl carbamate reported by Gruber et al. (*J. Pharmacol. Expl. Ther.* 112:480, 1954; through *C.A.*) is an active central nervous system depressant about one-fifth as potent as Sodium Seconal. Its duration of action is shorter than that of Seconal. Valmid does not produce specific effects on the blood pressure, pulse, or respiration of normal human subjects when given in hypnotic doses.

New Analgesic-Hydroxyisophthalic Acid

A by-product of salicylic acid manufacture, 4-hydroxyisophthalic acid, has been found to be an effective analgesic and antipyretic with low toxicity by a group at Allen & Hanbury, Ltd. and the British Chemical Research Laboratory at Teddington, according to an announcement in *Nature*.

Animal tests in rabbits and rats showed that the compound was less toxic than aspirin and more active in alleviating pain and reducing fever. Clinical trials are now under way.

Comment: Gentisic acid, another salicylic acid derivative, is an effective drug of low toxicity, but its high cost has limited its use. This hydroxyisophthalic acid, a known compound, might, by modification in the salicylic acid process be made cheaply as the main product and could, in time, preempt some of the large aspirin market.

Aminophenylacetamide Antispasmodic

As part of a pharmacological screening program involving various basic phenylacetonitriles and derivatives, a number of amides were prepared by Janssen (*J.A.C.S.* 76:6192, 1954).

The amides possess musculo-tropic antispasmodic properties. The *p*-methoxy - substituted compounds are more active than the unsubstituted or *p*-methyl-substituted analogs. α-Dibutylamino - α - (*p* - methoxyphenyl) - acetamide equals papaverine in this respect. It is however several times less toxic.

Treating Leukemias

The therapeutic agents available for treatment of leukemia according to J. H. Burchenal (*Bull. N. Y. Acad. Med.* 30: 429, 1954) are irradiation and chemotherapy. In acute leukemia the sequential use of the antimetabolites, amethopterin, aminopterin, and 6-mercaptopurine, and the hormones, corticotropin and cortisone, may be expected to produce beneficial effects with an increase in survival time in a high percentage of children. Definite but less frequent beneficial effects have been noted in adults with mercaptopurine. In chronic myelocytic leukemia Myleran (1,4-dimethanesulfonyloxybutane), triethylenemelamine (TEM), urethane, arsenic, and the nitrogen mustard HN_2 are useful chemotherapeutic agents; 6-mercaptopurine is still under evaluation in this form of the disease and may prove to be of considerable value. In chronic lymphocytic leukemia, the only chemical agents of value are the mustard derivatives, triethylene-melamine, nitrogen mustard NH_2, the hormones, and possibly urethane.

Reduction of Cholesterol Blood Levels

In 101 patients (reported by Cottet, Mathivat, Redel, *Presse med.* 62:939, 1954) six weeks of treatment with phenylethylacetic acid produced decreases of cholesterolemia up to 40 per cent. Larger decreases were obtained with larger amounts of the acid.

N-Palmitoyl Sarcosinate

Of the N-acyl derivatives of sodium sarcosine studied by Volker, Fosdick, Manahan and (*Proc. Soc. Exptl. Biol. Med.* 87:332, 1954) sodium N-lauroyl sarcosinate produced the least effect and sodium N-palmitoyl sarcosinate produced the greatest effect in reducing the acid solubility of powdered human enamel. Aqueous solutions of one per cent, 0.5 per cent, 0.1 per cent and 0.01 per cent of sodium N-palmitoyl sarcosinate have been shown to reduce the solubility of powdered human enamel to a degree comparable to that observed with sodium fluoride solutions. These observations may be of importance in the prevention of dental caries.

Gamma Globulin and Measles

Bettag, Plotke and Sterling (*Public Health Reports* 70:353, 1955) report that gamma globulin in the dosage currently recommended for prevention of measles failed to protect six out of 10 children to whom it was administered. Gamma globulin in "modifying" dosage apparently failed to modify the disease in four out of 19 students to whom this dosage was administered. There was no evidence that gamma globulin prevented or modified German measles.

Hematinic

A preliminary account is given by Cappell et al. (*Brit. Med. J.* 1255, 1954) of the successful clinical trial, in 15 patients, of a newly elaborated proprietary dextran-iron hematinic. The agent proved non-irritating when given intramuscularly and was readily adsorbed, giving serum iron levels of 600 micrograms within eighteen hours; absorption via the lymphatics was demonstrated histologically. The complex proved an effective hematinic, giving average hemoglobin regeneration rates of between 3.5 and 11.3 per cent Hb per week over the first four weeks of treatment.

Perfumer's Shelf

Perfuming Toilet Soaps

The special problems involved in perfuming fine toilet soaps are discussed by G. Coatli (*S.P.C.*, p. 406, 1955). He states that the ideal case of dissolving the perfume oil mixture in alcohol and water is nothing like the variety of problems encountered in adding perfume to soap; the perfumer can function at his best when he is well acquainted with the procedures and raw materials utilized in soap manufacture.

In the first place, fats and oils used in making soap usually have their own characteristic odors which carry through into the finished product. Beef tallow is slightly acidic in odor, lard has a slight and almost imperceptible smell, palm oil has an odor suggestive of iris, while coconut oil is reminiscent of laurel. The origin and condition of the animal or the age and time of the harvest for the plant may have considerable significance, as well as the method of extraction. The method of soap making influences perfuming and the presence of excess alkali or unsaponified fats are certainly important.

Soap perfumes should be of simple composition and of maximum intensity and stability; products to lend special nuances are likely to be lost, however, and usually are unnecessary. Light or white soaps cannot be perfumed with dark perfume oils such as patchouli, cinnamon, cassia, vetivert or clove, but these are valuable in colored soaps because of their intensity and stability. Perfumes should be selected to blend with the basic odor of the soap—palm oil soaps do not blend well with light flowery odors like jasmin, gardenia or lily-of-the-valley are good with cinnamon, rosemary, cloves, patchouli, sandalwood, coumarin, etc. Lard, if a high quality edible grade is used, gives soaps that can be perfumed with almost any perfume compound. Super-fatting ingredients and other additives must be considered for their effect on the overall odor.

Solubilizing Flavors

In the preparation of some official syrups, containing flavoring agents in a sugar solution, W. B. Swafford and W. L. Nobles (*J. Am. Pharm. Assoc. Pract. Ed.* 16:223, 1955) found the use of Tween 20 to permit easy preparation of better solutions. These solutions were found to be altogether satisfactory for the usual applications for the original syrups.

The tolu balsam syrup described in the U.S.P. XIV monograph required considerable time for intimate mixture of the tincture of tolu, magnesium carbonate and sugar and then for filtration. Some difficulty is also often encountered by clumping caused by too rapid addition of water. The proposed modification involves elimination of magnesium carbonate, use of Tween 20 for solubilizing, addition of glycerine and the use of simple syrup as the vehicle:

Tolu balsam tincture	2.5
Tween 20	15.0
Glycerine	15.0
Syrup, to make	50.0

The tincture is mixed with the Tween; add glycerine, mix thoroughly and add to the required amount of syrup.

The resulting product is clear but darker than the official syrup. On standing, it separates into two clear layers which can be re-mixed on shaking.

The following formula is suggested for the official orange syrup:

Orange oil	0.5
Tween 20	3.0
Citric acid	0.25
Glycerine	5.0
Syrup, to make	50.0

Mix the orange oil with the Tween 20 and add glycerine. Dissolve the citric acid in the syrup. Add the orange oil mixture to this solution to obtain a clear preparation not requiring filtration. The preparation compares favorably with the official syrup.

The modified formula suggested for aromatic eriodictyon syrup is:

Eriodictyon fluidextract	1.6
Compound cardamon Tincture	3.25
Sassafras oil	0.025
Lemon oil	0.025
Clove oil	0.05
Tween 20	15.0
Syrup, to make	50.0

Mix the fluidextract, tincture and flavoring oils; add Tween 20; agitate vigorously and add enough syrup to bring the solution to the required volume and obtain a clear solution.

Comment: The Tweens, depending upon their composition, differ widely in their ability as solubilizing agents and in taste. We found Tween 60 to be relatively bland and innocuous in taste, but did not check its solubilizing action in the composition. Tween 20 may have the best all-around usefulness, but it might be worthwhile to test some of the others.

Apple Flavor

Power and Chestnut studied the aromatic constituents of apples and apple peelings and identified the amyl esters of formic, acetic and caproic acids with a very small amount of the caprylic ester and a considerable proportion of acetaldehyde as ingredients in Ben Davis, Springdale and crab apples. They also identified geraniol in McIntosh apples.

As a result of these works on apple, Power and Chestnut procured a patent on a synthetic apple flavor. This flavor had the following composition:

iso-Amyl Formate	10
iso-Amyl Acetate	10
iso-Amyl Caproate	5
iso-Amyl Caprylate	1
Acetaldehyde	2
Geraniol	1
Geranyl Formate	1
Geranyl Acetate	1

Although far from a good commercial flavor in quality, there was no doubt that it gave a characteristic apple flavor and in the hands of a trained

TOP NOTES by Fritzsche

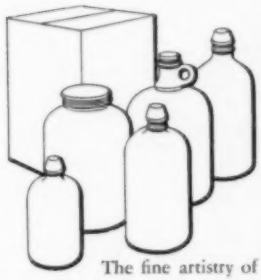
A THOUGHT for the Month:

"It is a matter of historical experience that nothing that is wrong in principle can be right in practice."
—CARL SCHURZ

RECOMMENDATION of the Month

Spring Bouquet (No. K-403)

This lovely bouquet is as light and fresh as the fragrance of apple blossoms glistening with early morning dew. It has been used with considerable success in toilet waters, summer colognes and lotions. You will be favorably impressed by its provocative fragrance, especially at its low price of $6.50 per lb.



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Good Scents

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flavor man could be reworked into an acceptable commercial product.

The invention of the volatile essence recovery unit by the Eastern Regional Research Laboratories permitted the concentration of the volatile portions of the fruit, free from the non-volatile portions, essentially unchanged by processing. The invention was first tried on apple and the essence recovered retained the flavor and odor of fresh apples.—*Givaudan Flavorist.*

Oil of Lavandin

Lavender and spike are the parents of the hybrid known as lavandin. Experimental production of the hybrid was first accomplished in 1926 by fertilizing spike with pollen from lavender. Gattefosse has distinguished two categories of lavandin, according to the parent plant most closely resembled. About 1.25 kilos of oil are obtained from 100 kilos of flowers.

The analytical characteristics of the essential oil vary widely but accepted standards are the following:

Density 15°/15°	**0.889-0.900**
Refractive index, 20° C.	**1.4580-1.4660**
Optical rotation, 20° C.	**—1° to —7°**
Esters	**16-28 per cent**

Maximum solubility in four or more volumes of 70 per cent alcohol.

The major constituents of lavandin oil are said to be linalol, borneol, ethyl amyl carbinol, geraniol, eugenol, coumarin, camphor, linalyl acetate, ethyl amyl ketone, cineol, hexanal, octanal, cuminaldehyde, diacetyl, hexanol.

Oil of lavandin may be used in place of oil of lavender whenever the user has difficulty in keeping down his costs. Thus it is used in the perfumery industry and above all in soapmaking, where a high tonnage of lavandin oil is absorbed. Indeed, it imparts to soaps a fresh sharp note which is reasonably persistent and much appreciated.

It has been used since 1940 in the synthetic aromatic raw materials industry as a starting substance. It also yields linalol and linalyl acetate which, when carefully purified, are of excellent quality. By the isomerization of linalol to geraniol and the oxidation of the latter, citral is obtained, which is remarkable for its olfactory and organoleptic properties, in which it resembles citral from oil of lemon. It is possible to make from this citral ionones, methyl-ionones, nerol, citronellal by selective hydrogenation.

Finally, during the last few years, the antiseptic property of oil of lavandin has been mentioned in a number of papers. In the state of vapor, oil of lavandin has a germicidal action on Eberth's bacillus, a slightly germicidal action on the diphtheria bacillus, and very little germicidal action on staphylococcus. In the liquid state the bactericidal action is very marked on these three microorganisms. In view of the definitely microbicidal action of oil of lavandin, it is being employed more and more, particularly in the form of aerosols, for disinfecting dwelling houses, classrooms and public halls.—G. Igolen, *S.P.C.* 28:525, 1955.

Versalide

Versalide, a new type of synthetic musk, is being offered by Givaudan-Delawanna. It is said to be a pure chemical compound made from easily available raw materials; it is a cyclic ketone, not a nitro musk, but is not one of the macrocyclic ketones. Versalide is a colorless, crystalline material solidifying at 41° C. with an intense sweet odor that suggests that of the macrocyclic type musks; it is readily soluble in usual perfumery solvents. The specialty is said to be stable to light, heat, air and alkali; it does not discolor white soap and heating with aqueous potassium hydroxide does not diminish or alter its odor or cause discoloration. This chemical compound is said to be safe for all cosmetic applications, since it is neither a primary irritant nor a sensitizer.

This new musk is claimed to be definitely superior to the nitro musks and it enhances and fills out floral type odors in a manner similar to that of the more expensive macrocyclic musks.

Masking Bitter Tastes

With quinine hydrochloride as the distasteful drug, an investigation was carried out by D. N. Entrekin and C. H. Becker (*J. Am. Pharm. Assoc.* 43:693, 1954) to see if increasing the amount of such substances as salt, acid, and sugar over the normal quantities usually accepted would increase the disguising power of the syrups used. Doubling the flavor concentration, increasing the sugar content to approach that of simple syrup, adding salt to some flavored syrups and excess citric acid to others, and increasing the viscosity of the taste test solutions—all helped considerably in disguising the bitter taste of quinine hydrochloride. Both skimmed and homogenized milks were found to be better than water as the diluent for the taste-test solutions. Homogenized milk was better than skimmed milk. Cacao syrup U. S. P., was found to be the best-flavored syrup for masking the bitter taste of quinine. The other official syrups, cherry and raspberry, and the imitation flavored syrups, coconut, cream soda, butterscotch, and wild cherry, acid added, were found to be consistently high in disguising ability.

Nut Flavors

Depending on the end use and type of nut flavor desired, the flavor chemist according to the *Givaudan Flavorist*, will choose his building blocks from a wide variety of natural and synthetic materials. Like many compounded flavors, the framework is predominantly synthetic whereas natural products form the bulk of the ingredients which lend character and naturalness to the finished creation. Thus valerian extract or oil, which represents the type of decomposition occurring in the nut is an important ingredient of many nut formulations but delicate nuances are also supplied by other natural products, many of which are not readily available commercially. The roasted character may be supplied by furfual derivatives of natural extracts obtained from roasted products such as coffee, cocoa, etc. Fattiness is supplied by many materials and these may be natural, such as cognac oil, or synthetics, such as the fatty acids. Nuts with fruity nuances may contain the esters of fatty acids.

Stabilizing Peppermint Oil

To inhibit the oxidation and polymerization of distilled peppermint oil during storage, Ivanov, Nicolov and Ognyanov (*Compl. rend. acad. bulgare sci.* 6:25, 1953) treated the raw oil with hot air, 50-70 g. being treated at 65-70° in the laboratory experiment. The specific gravity of the oil changed from 0.910 to 0.925 in two hours and to 0.923 in three hours. At 125° the specific gravity was raised to 0.925 in three hours and to 0.937 in 14 hours. After the treatment, the oil was certified and remained perfectly stable during storage of 11 months. On a plant scale, several trials were made with 50-80 kg. batches. After treatment the oil was rectified. During the operation, the acid number, the total menthol and the combined menthol content increased, the free menthol content decreased and the content of menthone remained unchanged.

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Skin Research

Skin Treatment

I wish to call to your attention a book that is an absolute requirement for anyone interested in the formulation, manufacture and promotion of cosmetics or topical pharmaceutical preparations. This book, written by Drs. Chester N. Frazier and Irvin H. Blank, hides its many virtues under the title "A Formulary for External Therapy of the Skin," but the chapter headings are more indicative of the general scope. These include "Cleaning the Skin" with subdivisions on "Mechanism of the Cleaning Process," "Effect of the Cleaning Process on the Skin," "Superfatted Soaps," "Specific Uses of Soap Substitutes," "Removal of Keratinized Epithelium and Bacteria" and "Medicated Soaps;" a chapter on "Ointment Vehicles" with subheads "Chemical and Physical Characteristics of the Vehicles," "Hydrophobic Oils," "Hydrophilic Oils," "Emulsions," "Oil-powder Vehicles," "Performance of the Vehicles after Application to the Cutaneous Surface;" the next chapter on "Emollients and Protectives" including "Mechanism of the Action of Emollients" as well as sections on the composition of various ointment (and cream) bases; succeeding chapters on "Antipruritics," "Anti-Infectives," "Anti - Eczematous and Antiseborrheic Agents," and "Antiperspirants." There is an especially good discussion, in the chapter on "Emollients," of the causes and treatment of dry skin that should be part of the fundamental knowledge of every person involved in any aspect of the cosmetic industry. Finally, this very slender book is very well written and most easy to read.

Skin-Protective Ointments

Tests were conducted by Shaw and Crowe (*A.M.A. Arch. Dermat.* 71:379, 1955) to show the comparative effectiveness of several protective ointments, and two of those containing silicones gave the best results. The vehicle in which the silicone was incorporated influenced to a marked degree the efficiency of the tested ointments. The most effective protection was provided by the mixture of 30 per cent silicones in petrolatum. This exhibited twice the protection of petrolatum alone. The mixture of 52.5 per cent silicones in bentonite was more efficient than the same percentage of liquid petrolatum in bentonite. It was found that the mixture of silicone, nitrocellulose, and castor oil in vanishing cream was of no greater protection than vanishing cream alone. The nonsilicone commercial protective ointments were of little value against soap and hot water and soluble cutting oil exposures. No currently available "protective" ointment provides an adherent barrier against petroleum solvents or insoluble cutting oils. The repeated washings disclosed the fact that all the protective ointments can be removed with soap and water after varying lengths of time, indicating the need for reapplication as required for any particular activity.

Society of Cosmetic Chemists

The afternoon session of the Society of Cosmetic Chemists meeting on May 13, 1955 was devoted to the geriatric implications and applications of cosmetics. E. Henderson opened the session with a general survey *The Social and Economic Aspects of Skin Geriatrics* and this was followed by W. Andrew discussing *The Anatomy and Histology of Aging Skin.* In human skin in old age an atrophy of the epidermis occurs, with a loss of the ridge-like downgrowth of cells which are numerous in young persons. A general flattening out of the epidermal layer seems to occur, but some of this may be due to less shrinkage of older skin on removal. Very interesting is the fact that *more* cells are dividing in epidermis of old persons than of young. Of much importance, too, may be the difference at different ages in the outermost layer, which is composed of dead, cornified cells. In young individuals this layer is made up of loosely adherent plates, in senile individuals these plates are closely adherent to each other. In the epidermis at all ages there are present some cells which are "migrants" from the dermal layer. The appearance and possible role of these cells was discussed. In the dermis, evidence for some changes in elastic and collagenous fibers was given and an attempt made to evaluate conflicting findings. The close relationship of the condition of the skin to the function of the endocrine glands was stressed by indicating some apparent "rejuvenative" effects brought about by treatment with hormones and also the changes in skin in diseases involving deficiency of hormones.

In his paper, *The Chemistry of Aging Skin,* P. Flesch considered the scant and fragmentary information regarding the chemical composition of the aging skin.

At present, it is impossible to attribute the distinctive features of old skin to any special change in chemical components. The dry and chapped skin surface, although suggestive of an abnormal keratinization, has never been studied from a chemical point of view. The only fairly well established chemical changes which occur in the aging skin are increases in the calcium and water content. The profound morphological and histochemical alterations in the elastic and collagenous fibers which are reflected in the wrinkling and decreased elasticity of the aging skin, have never been explained on a chemical basis.

C. Carruthers, D. L. Woernley, A. Baumler and H. Shorts discussed *The Structural Proteins of Epidermis and their Possible Relation to Aging.*

Investigators have previously indicated that the chief effect of aging upon epidermis is atrophy of this tissue. In order to obtain more information on the important structural proteins of epidermis in its normal, aging and pathological states, investigations on the isolation and properties of the proteins were undertaken. Other investigators have

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shown that the fibrous and non-fibrous (structural) proteins of mammalian epidermis are the keratin precursors and that they are an integral part of the tonofibrils which may have a role in the adhesion of squamous cells. To determine whether these proteins possibly exist in different states of aggregation in the various strata of the epidermis, this tissue was extracted with urea solutions. Epidermal extracts thus prepared left a clot upon dialysis against distilled water, together with a solution of the structural proteins. Dialysis of the dilute urea extracts did not result in clot formation, but yielded the fibrous and non-fibrous proteins which are probably extracted from the lower strata of the epidermis. The electrophoretic mobilities of these proteins were independent of the concentration of urea employed for their extraction and of their source. The possible role of the structural proteins in the aging of epidermis was briefly discussed.

Skin Esterases

The simple esterases of normal human skin were studied biochemically and histochemically by G. H. Findlay (*Brit. J. Derm.* 67:83, 1955) using the same substrates for both procedures. Skin esterase was found to possess affinities for ester substrates which were significantly different from the known substrate preferences of human liver and pancreatic esterase, and the esterases of human blood serum and urine. Esterase was approximately a thousand times more concentrated in the liver and pancreas than in the skin.

Failures to demonstrate simple esterases in the human skin histochemically were found to be due to a sensitivity of these enzymes to the processes of tissue imbedding. The enzyme activity was preserved in frozen sections. The cytoplasm of all cell types in the skin showed some measure of esterase activity, but high concentrations were seen only along the borders of the epithelia, suggesting a possible importance of the enzymes in epithelial desquamation. In the corium the peripheral dendritic processes of many connective tissue cells showed esterase activity, thus making visible some regions of the cytoplasm that are seldom seen by usual staining techniques. Skin cholinesterase could not have been responsible for the hydrolysis of the ester substrates used, since the hydrolysis was not greatly inhibited by eserine. Neither could the enzymatic activity be ascribed to lipases, because the esters containing longer chain fatty acids were progressively less well hydrolyzed, and the enzyme action was also markedly inhibited by bile salts. The wider relations of these enzymes to the health, disease and therapeutics of the skin remain unexplored. Their high concentration near all skin surfaces, however, suggests that the esterases may play a role in the integrity of cutaneous ducts or in the shedding of keratin.

Seborrheic Dermatitis

Selenium sulfide shampoo proved to be a safe, non-toxic, efficient method of controlling seborrheic dermatitis of the scalp in 89 per cent of 140 cases studied for two years by E. S. Bereston (*J.A.M.A.* 156:1246, 1954). Excessive oiliness in 31 per cent of all cases and orange tinting of gray hair in 19 per cent of gray-haired persons are the only objections to this compound, and these can be partially controlled.

Use of selenium sulfide shampoo must be continued on a permanent weekly basis to prevent recurrence of seborrhea. It is a vast improvement over older methods of daily treatment because it is simple to use, is not greasy, and need be applied only for five minutes after each weekly shampoo. However, it is not a cure for seborrhea. This shampoo is effective in many instances in which other drugs have failed or when sensitivity to sulfur or resorcin exists.

Soap Adsorption by Skin

The cleansing action of soap, according to Kooyman and Halberstadt is due to the intimate contact the soap makes with the protein layers of the skin; the particles of dirt are thus displaced. Soap may also bring about solution of grease or oil and the particles of dirt, after change in pollarity, are attracted to the colloidal soap micelles. Mechanical rubbing also plays a part in cleansing the skin. When the cleansing act is completed it is assumed that all the soap is removed from the skin by rinsing.

In the course of experiments on the formation and secretion of fat by the skin wide variations appeared in the amount and nature of the fat that could be obtained from the skin surface. It became evident that the manner of washing the skin was one important cause of this variation. It seemed possible that the duration of washing the skin and the type of cleanser affected the composition of the fat. Experiments were therefore carried out by A. G. Ramsay and K. K. Jones (*Brit. J. Derm.* 67:1, 1955) in an attempt to see whether soap was adsorbed on the skin in such a manner that it could not readily be removed.

Cleansing with water alone or with alcohol results in no alteration in the normal lipid layer on the skin.

During normal cleansing with soap and water an adsorption layer of soap is formed on the skin. This soap layer is converted in the course of 25-60 minutes into a layer of free fatty acids which clings tenaciously to the skin.

This layer of fatty acid of variable composition may complicate and render innacurate the estimation of fat on the skin.

The adsorbed fatty acids may have an effect on the well-being of the skin.

Cinnamic Acid and Nitrostyrene Fungicides

The antifungal activity of a large number of compounds structurally related to the stilbenes was reported by Curtis, Bocobo, Harrell and Block (*A.M.A. Arch. Derm. and Syph.* 70:786, 1954). These compounds, including a number of cinnamic acid derivatives and aromatic ethylenes, were screened by means of the serial dilution agar method. Their activities varied and the nitrostyrene group, particularly the β-methyl-β-nitrostyrene and para-methoxy-β-methyl-β-nitrostyrene, were highly potent. The nitroethylene radical $-C=C-NO_2$ seemed most important in this antifungal activity. The LD_{50} of β-nitrostyrene is 82 mg./kg., of β-methyl-β-nitrostyrene, 130 mg./kg. Preliminary animal protective experiments against blastomycosis were inclusive, in part because of the unexpected toxicity of the vehicle.

Skin Penetration of Fat and Fatty Acid

E. O. Butcher, *J. Invest. Dermatol.* 21, 43, through C.A. 48, 10223, describes investigations in which lanolin, linoleic acid, oleic acid, ricinoleic acid, and squalene were applied to the backs of rats, and biopsies taken at intervals, fixed, frozen, and sectioned. Fluorescent microscopy showed that linoleic acid penetrated the skin and could be found in the capillaries 10 minutes after application. Oleic acid penetrated more slowly, and little appeared in the capillaries. Lanolin and ricinoleic acid remained in the outer epidermal layers. Temperature (26° to 50°) of the application was without influence; nor did a preliminary cleaning of the skin with ether affect the rate of penetration.

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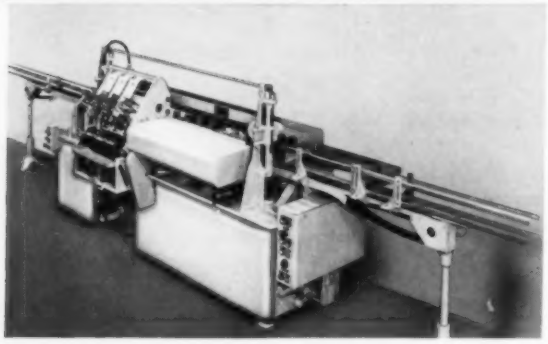

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(Continued from page 834)

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2,704,284—Abbott Labs. — Therapeutic Compounds.
2,704,285—G. D. Searle—2 - Amino - 5 - (Lower Alkyl)-6-Substituted Phenyl-4-Pyrimidols.
2,704,287—Sterling Drug — 5 - (2 - Cyclohexylethyl-2-Thiohydantoin.
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2,704,754—Olin Mathieson—Bis - isonicotinoylhydrazone of glucosone.
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2,704,763—Upjohn—5 - Benzyloxy - 3 - Carbalkoxy-Indoles.
2,704,767—Farbwerke Hoechst (Germany) — Diuretically Active Addition Compounds of Mercury Salts to N-Alkyl Sulfonamides.
2,704,768—G. D. Searle—Phenanthrenes.
2,705,186—Imperial Trust (England)—Aluminum Chloride Manufacture.
2,705,214—Cutter Labs.—Clostridium Vaccine.
2,705,232—G. D. Searle—Ternorcholanylthizaoles.
2,705,233—Glidden Co.—16, 17-Oxido-Pregnane-3α-OL-3, 20-Dione.
2,705,237—Syntex (Mexico) — Steroid Trienes Process.
2,705,238—Glidden Co.—Steroid-Dimethylamines.
2,705,239—Nepera—Estrogens.
2,705,244—Hoffmann-La Roche—N - (1 - methyl - 3-(2, 6, 6-trimethyl-1-cyclohexen-1-yl)-propyl)-α-chloroacetamide.
2,705,696—Am. Cyanamid—Antigens Production.
2,705,711—G. D. Searle — 9β, 11β; 16α, 17α - Bisepoxyprogesterone.
2,705,712—G. D. Searle — Cyclopentanophenanthrene Lactones.
2,705,715—Am. Cyanamid—Purines.
2,705,716—Ciba — Polyhydroxy Alkyl Mercapto Mercurial Diuretics.
2,705,719—Chemical Specialties—Aromatic Steroids Preparation.

(Continued on page 848)

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(Continued from page 846)

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2,705,725—**G. D. Searle—1-Hydroxymethyl-1, 12 Dimethyl-6-Hydroxy 1, 2, 3, 4, 9, 10, 11, 12-Octahydro-9-Phenanthrone.**
2,705,726—**Sterling Drug — Iodinated Aminophenyl-Carboxylic Acids.**
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2,706,196—**Sandoz—D. L.-Dihydro-Nor-Lysergyl Glycinamide.**
2,706,197—**Ciba—Phenanthroline-Quinones.**
2,706,198—**Merck—Benzhydryl Ethers of Tropine.**
2,706,202—**Chas. Pfizer—Bicycloheptanes.**
2,706,732—**Hoffmann-La Roche—Hydrazides.**
2,707,184—**Upjohn—Carbonyloxy Steroids.**
2,707,186—**Hoffmann-La Roche—Imidazolones.**
2,707,188—**Parke, Davis—Thiophenes.**
2,707,189—**Upjohn—3 - Keto - 17β - Acetamido - 4-Androstenes.**
2,707,193, 4—**N. V. Koninklijke (Holland)—3, 3, 5-Trimethyl Cyclohexanol-1 Mandelate and Mandelic Acid Esters of N-Octanol-1 and N-Nonanol-1.**
2,707,696—**Robinson Foundation — Antihistamines.**
2,707,697—**Horizons Incorporated—Curling Hair with Solution of Zirconium Compound and a Hydroxy-Carboxylic Acid.**
2,707,710—**UCLAF (France)—Vitamin D_3 Prepn.**
2,707,711—**Upjohn—3-Keto-21-Hydroxy-4, 9 (11), 17 (20)-Pregnadriene.**
2,707,959—**General Aniline—Tobacco with Polyvinyl Pyrrolidone as Counter-Irritant.**
2,708,174—**Commercial Solvents—Clinical Dextran Infusion Fluid.**
2,708,178—**Am. Home Products—Test Method for Growth-Promoting Factors.**
2,708,194—**U. of Michigan—2-(1-Methyl) Polymethyleniminylmethyl Benzhydryl Ethers.**
2,708,195—**Burroughs Welcome — Dipiperazine Calcium Citrate.**
2,708,201—**G. D. Searle—16-Haloprogesterones.**
2,708,202—**Merck—Pregnene-21-Aldehydes.**

COURT CASES

2,403,473—**S. Ansbacher, Therapeutic Composition, Am. Home Products v. Wilshire-Carthay Corp., Los Angeles, Case dismissed.**
2,471,394—**R. Gubner, Salicylate and Succinate therapeutic preparations. Filed in Detroit, Dolcin Corp. v. S. J. Tutag Co. et al.**
2,499,058—**J. W. Cusic, 8-Haloxanthine salts of diarylalkyl dialkylaminoalkyl ethers, filed in New York. G. D. Searle v. R. S. A. Corp. et al.**
2,449,866—**Waksman and Schatz, Streptomicin, filed Nov. 1, 1954, Newark, N. J., Marcus v. Rutgers Research and Endowment Found. et al.**
2,567,245—**N. Sperber et al, Aryl-(2-pyridyl)-Amino Alkanes, filed July 27, 1954, Southern District, N. Y., Schering Corp. v. Italian Drugs Importing Co., Inc. et al.**
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DISEASE CONTROL WITH DRUGS

(Continued from page 757)

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The interesting fact concerning developments in the pharmaceutical industry for the greater control of disease is that these new and effective therapeutic agents are not confined to one type or category of product or raw material but are resulting from research into all classes of drug products. Reserpine, for control of blood pressure and mental disease, is from a botanical which is the old class of drug products available. And

(Continued on page 856)

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(Continued from page 846)

2,705,720—**Upjohn—4, 16-Pregnadiene-3, 11, 20-Trione Process.**
2,705,721—**G. D. Searle—$\Delta^{5(10)}$-ESTRAENE-3, 17-Diol.**
2,705,725—**G. D. Searle—1-Hydroxymethyl-1, 12 Dimethyl-6-Hydroxy 1, 2, 3, 4, 9, 10, 11, 12-Octahydro-9-Phenanthrone.**
2,705,726—**Sterling Drug — Iodinated Aminophenyl-Carboxylic Acids.**
2,705,728—**Hoffmann-La Roche—Prepn. of Unsaturated Alicyclic 2-Methylbutanals.**
2,706,196—**Sandoz—D. L.-Dihydro-Nor-Lysergyl Glycinamide.**
2,706,197—**Ciba—Phenanthroline-Quinones.**
2,706,198—**Merck—Benzhydryl Ethers of Tropine.**
2,706,202—**Chas. Pfizer—Bicycloheptanes.**
2,706,732—**Hoffmann-La Roche—Hydrazides.**
2,707,184—**Upjohn—Carbonyloxy Steroids.**
2,707,186—**Hoffmann-La Roche—Imidazolones.**
2,707,188—**Parke, Davis—Thiophenes.**
2,707,189—**Upjohn—3 - Keto - 17β - Acetamido - 4-Androstenes.**
2,707,193, 4—**N. V. Koninklijke (Holland)—3, 3, 5-Trimethyl Cyclohexanol-1 Mandelate and Mandelic Acid Esters of N-Octanol-1 and N-Nonanol-1.**
2,707,696—**Robinson Foundation — Antihistamines.**
2,707,697—**Horizons Incorporated—Curling Hair with Solution of Zirconium Compound and a Hydroxy-Carboxylic Acid.**
2,707,710—**UCLAF (France)—Vitamin D_3 Prepn.**
2,707,711—**Upjohn—3-Keto-21-Hydroxy-4, 9 (11), 17 (20)-Pregnadriene.**
2,707,959—**General Aniline—Tobacco with Polyvinyl Pyrrolidone as Counter-Irritant.**
2,708,174—**Commercial Solvents—Clinical Dextran Infusion Fluid.**
2,708,178—**Am. Home Products—Test Method for Growth-Promoting Factors.**
2,708,194—**U. of Michigan—2-(1-Methyl) Polymethyleniminylmethyl Benzhydryl Ethers.**
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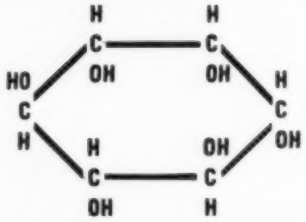

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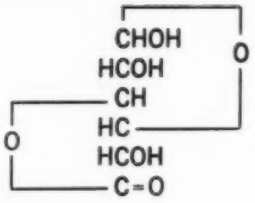

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Trade Literature

Proceedings: Perfumer Symposium

The American Society of Perfumers now has available copies of the proceedings of the First Open Symposium of the Society held in March. This 40-page book, which is full of information of value to all who use perfuming materials, may be obtained from the Secretary of the Society, William L. Barlow, Orbis Products Corporation, 601 West 26 Street, New York. It is priced at $1.00 per copy.

The Merck Memo

Merck & Co., Rahway, N. J., is offering "The Merck Memo," a new service publication for pharmaceutical manufacturers distributed periodically without charge. The bulletin is designed to bring manufacturers technical news and aid them in the development and promotion of their products. The first issue contained a feature article, an abstract section, and a section on pharmaceutical highlights. The original article deals with vitamins in pregnancy, pointing out that "one woman in every twelve is pregnant." Any of the text of the bulletin may be reproduced without permission.

MM&R Anniversary Booklet

Magnus, Mabee & Reynard, 16 Desbrosses Street, New York 13, has issued an attractive booklet on the occasion of its Diamond Jubilee (1895-1955). The two-color, profusely illustrated booklet traces the growth and development of the firm from its beginnings to the present day.

Polak & Schwarz Price List

Polak & Schwarz, 667 Washington Street, New York 14, are now issuing their aromatic price list every two months. The price list is issued from the main office of the Company in Zaadam, Holland, and distributed to customers in 60 countries.

Booklet on Itaconic Acid

The Chemical Sales Division, Chas. Pfizer & Co., 630 Flushing Avenue, Brooklyn 6, N. Y., has issued booklet No. 82, a 20-page index-type technical bulletin outlining the uses and properties of itaconic acid, which is made in volume by the Company. Charts, molecular stricture, reactions, polymerization, patents and packaging and shipping data are included.

Pulva Catalog

Pulva Corporation, 550 High Street, Perth Amboy, N. J., has issued a revised and enlarged general catalog describing its complete line of Pulva-Sizers, Com-Bin Feeders, and auxiliary equipment.

Carbide Glycols and Triols

Carbide and Carbon Chemicals Company, 30 East 42 Street, New York 17, has issued a 60-page booklet Glycols (F-4763), describing in detail the twelve commercial glycols and triols sold by the Company, and giving information on other glycols and triols available in development quantities. The booklet describes use and suggested applications.

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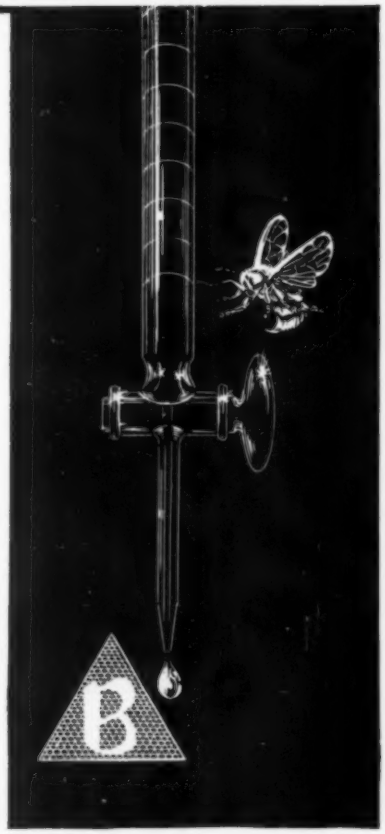

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Industry's Books...

Handbook of Treatment, *by Harold Thomas Hyman, M.D., Author of Integrated Practice of Medicine, and Handbook of Differential Diagnosis, 511 pp., J. B. Lippincott Co., Phila., (1955), cloth,* **$8.** This is an accurate and reliable reference book in which are gathered precise data on today's methods of treatment for almost every human ill. Subject matter relating to signs, symptoms and diseases is arranged in this way: first, a terse statement of general principles; then, coverage of immediate care; followed by discussion of continuing care in the event of both favorable and unfavorable courses. There is a fourth general category given over to Rosters of Therapeutic Agents. In each list the various products appear alphabetically according to approved designations. Information incorporated in these rosters includes: manufacturer's trade name, the name of the approved manufacturer, the pharmaceutical form in which the product is most conveniently marketed and dosage indications.

Regional Allergy of the United States, Canada, Mexico and Cuba, *A Symposium of Thirty-nine Contributors, Edited by Max Samter, M.D., Chief, Allergy Clinic, Research and Educational Hospitals University of Illinois, and Oren C. Durham, Lecturer in Allergy, University of Illinois College of Medicine, 395 pp., Charles C. Thomas, Springfield, Ill., (1955), Cloth,* **$8.50.** This is the first attempt to prepare a comprehensive survey of the local allergic problems of the United States and its neighboring countries. Although it includes data on wind and weather, and much detailed information about the dispersal of pollen and mold spores, it is not a botanical text. It is, rather, a stimulating account of the allergic factors which prevail in this country of fertile land and deserts, mountains and valleys, inland lakes and oceans. It is also an account of man's struggle to control an allergic environment; and to control the individual who has to live in it.

Organic Syntheses *(Collective Vol. 3—A Revised Edition of Annual Volumes 20-29) E. C. Horning, Editor-in-Chief, 890 pp., John Wiley & Sons, Inc., New York, (1955), Cloth,* **$15.** Collective Volume 3 follows the plan initiated by the publication of Collective Volumes 1 and 2 of Organic Syntheses. The material in annual volumes 20-29 has been revised and brought up to date. Errors found in the original printings have been corrected; the calculations and references have been checked; modifications and improvements which have been brought to the attention of the

Editorial Board have been included; and seven new improved checked procedures have been added. The new procedures are for the preparation of acenaphthene quinone, B-ethoxyproprionaldehyde acetal, aminoacetal, 3-amino-1H-1,2,4-triazole, mesitoic acid, a-tetralone, and 2-thiophenealdehyde.

Diseases Transmitted from Animals to Man, *by Thomas G. Hull, Ph.D., Secretary, Council on Scientific Assembly, Director, Bureau of Exhibits, American Medical Association, and various contributors, Fourth Ed., 717 pp., Charles C. Thomas, Springfield, Ill., (1955), Cloth,* **$12.50.** This work is divided into the following main sections: Section I—Diseases of Domestic Animals and Birds and Occasionally of Wild Animals and Rodents. Section II—Diseases of Rodents and Wild Animals and Occasionally of Domestic Animals. Section III—The Relation of Human and Animal Diseases. The chapter on Fungous diseases contains new sections on Crytococcosis and Nocardia Infections. The following are discussed in the Fourth edition that were not included in the first edition—listeriosis, the several anthropodborne encephalitides, Rift Valley fever, contagious ecthyma of sheep, tsutsugamushi disease, lymphocytic choriomeningitis, jungle yellow fever, and coccidioidomycosis.

Diseases of the Skin, *by Oliver S. Ormsby, M.D., Late Rush Professor of Dermatology, University of Illinois; Attending Dermatologist to the Presbyterian Hospital of Chicago, etc., and Hamilton Montgomery, M.D., M.S., Professor of Dermatology and Syphilology, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, etc. Eighth Ed., 1503 pages, 750 Illustrations on 666 Figures, and 18 in Color on 11 Plates, Lea & Febiger, Phila., (1954), cloth,* **$22.** This is one of the most all-inclusive general works on diseases of the skin in the English language. Clinical conditions of the skin that are met daily are described clearly. Each entry is considered in respect to symptoms, etiology, pathology, differential diagnosis and treatment. Emphasis is on the relation of cutaneous manifestations to systemic diseases and on neuropsychiatric findings as they relate to the treatment of certain dermatoses. The entire text is directed toward those studies of value in practical application. The text has been enlarged to permit discussion of newer diseases and therapies. These include the use of cortisone and corticotropin in various dermatoses, and of the antibiotics, especially penicillin, in the treatment of syphilis. New treatment for lupus erythematosus; burns, including atom bomb burns; local and internal treatment of hyper- and hypopigmentations of the skin; new concepts of histopathology and histochemistry of bullous dermatoses and of nevi and neoplasms of the skin are just a few of many revised and rewritten subjects. The chapter on Chemistry and Physiology of the Skin, by Dr. Walter C. Lobitz, Jr., is based on considerable personal research. It is one of the most comprehensive reports in current medical literature.

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Readers' Questions . . .

Bath Salts: *I am interested in getting a formula for making bath salts to be used for body and foot relaxation. The salts should be colored and have a mild aroma. Any help you can extend will be appreciated.* BOSTON.

Bath salts can be formulated around any harmless, crystalline water-soluble salt, with the choice usually based upon special properties that may be desired. Rock salt crystallizes well, but is inert; sodium sesquicarbonate has useful water-softening ability. In your case, we believe that Epsom salt would be generally satisfactory. For the foot powder, but not for general bath use, a small amount of alum could be included to give some astringency to the mixture. Both color and perfume are added to the salt mixture as a solution in alcohol and water and the batch thoroughly mixed to assure even dispersion of the color and perfume. Spraying is sometimes used to get even distribution. Colors must, of course, be selected from the certified colors list and the perfume from your supplier should be one that will be stable in the mixture. As a starting point in formulation we would suggest the following:

Epsom salt	94.3
Alum	5.0
Perfume	0.5
Color	0.2

Sucrose Octa-acetate Preparation: *I wish to find a suitable base for slow but regular release sucrose octa-acetate, a bitter substance to help nail-biters and thumb-suckers overcome the habit. The base must be plastic enough not to bind areas to which it is applied and also be partially resistant to the action of moisture. I have tried methylcellulose, which is too soluble in water, and collodion and tincture of benzoin, which fail to release the bitter principle sufficiently. I would appreciate any help you could give in solving this problem.* NEWARK.

Our own approach to this problem would be the use of water-insoluble film-forming agent along with a sufficient quantity of water-soluble plasticizer to dissolve the bitter chemical and soften the film. You might try a solution of ethylcellulose in alcohol along with one of the polyethylene glycols as a plasticizer. The sucrose octa-acetate is soluble in 11 parts of alcohol, so that you should have no trouble with solubility. A preparation of this type, with suitable adjustment of proportions, should form a soft and flexible enough film

to avoid binding. The bitter compound should be extracted along with the water-soluble plasticizer by the moisture from the mouth and provide a quite discouraging experience to the confirmed nail-biter or thumb-sucker.

Retaining Skin Moisture: *We are interested in the materials used in cosmetics to retain moisture in the skin. We would appreciate whatever information you may have available on this matter.* HOLLYWOOD.

Skin moisture, and how to retain it, is discussed in considerable detail by the originator of this concept of skin softening, in an article appearing in this issue—"Dry Skin Treatment" by Dr. Irvin H. Blank. More detail, especially with respect to formulation of creams, is given in the book "A Formulary for External Therapy of the Skin," by Chester N. Frazier and Irvin H. Blank, available from our book department.

Brushless Shave: *Can you supply me with one or more formulas for brushless shave creams?* MIAMI.

Brushless shaving creams are oil-in-water emulsified creams of the vanishing type, containing only small amounts of lubricating ingredients. Creams of this type may be based upon stearic acid or on glyceryl monostearate and a formula for each type of cream is given.

Stearic acid	17.0
Glycerin	7.5
Potassium hydroxide	0.4
Triethanolamine	0.7
Lanolin	2.0
Mineral oil	3.0
Perfume	0.5
Water	68.9

The stearic acid, mineral oil and lanolin are heated together to 70° C. Heat the water, glycerin and alkalies to 70° C. and add the stearic acid mixture with stirring. Continue stirring until the mixture is homogeneous and add the perfume when the temperature drops to 45° C. A cream of this type is preferably stirred again after standing for a day at room temperature and filled cold.

Glyceryl monostearate	16.0
Sorbitol	6.0
Mineral oil	4.0
Perfume	0.5
Water	73.5

The glyceryl monostearate is the self-emulsifying grade. Heat all of the components together, with the exception of the perfume, and stir at 70° C. Continue stirring while cooling and add the perfume at 45° C. This cream may be filled while warm.

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- ☐ SODIUM CARBONATE
- ☐ ANHYDROUS SODIUM (Silicate of Soda)
- ☐ METASILICATE
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(Continued from page 848)

the botanical from which it is obtained, has been used in India for centuries. Thorazine (chlorpromazine), also most effective in control of mental disease, as well as effective in control of nausea under various disease conditions, is a synthetic chemical of the quite recently discovered antihistaminic type. The drugs for control of tuberculosis are both antibiotic and synthetic chemical in nature. Also the sulfa drugs and the antibiotics, both of which have accomplished miracles in control of infectious diseases, are from entirely different sources, one being synthetic chemical in origin, and the other being microbiological in nature. The development of steroid hormone products—which are expected to bring about control of an ever-widening list of diseases—represents still another source of products which was originally animal, but which is now only partially so.

Vitamins—all now chemical in origin—represent a most important class of products for control of a long list of diseases. And no matter how many specifics are developed for various diseases, vitamins always seem to fit in the therapy in some way. They are now being put together with some of the antibiotics so that the disease is directly attacked, and the natural processes are supported, both at the same time. From the point of view of application and use, vitamins now represent probably the most widespread class of drug products. And who can say that these products have reached the limit of their field of usefulness? The intensive research continually being carried on in the field of vitamins and their application holds real promise for many further developments in this important class of drug products.

Progress is being made also in the control of cancer, but here a rather small start is just being made. However, as the result of much intensive research certain definite facts have been established regarding cancer and chemicals are beginning to show some promise in limited control of certain types of this disease. Perhaps the greatest advance thus far made in fighting the cancer problem is the marshalling of certain facts concerning the disease. As more and more is learned about the true nature and manifestations of the various types of cancer, those engaged in research move closer to the eventual control of this disease in at least some of its forms. Results being obtained by cancer researchers—who are extremely large in number and very high in dedication—causes them to feel that the break must come before not too long.

DRY SKIN TREATMENT

(Continued from page 760)

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epithelium in any type of anhydrous oil or grease. *Flexibility is obtained with water, not with oils or greases.*

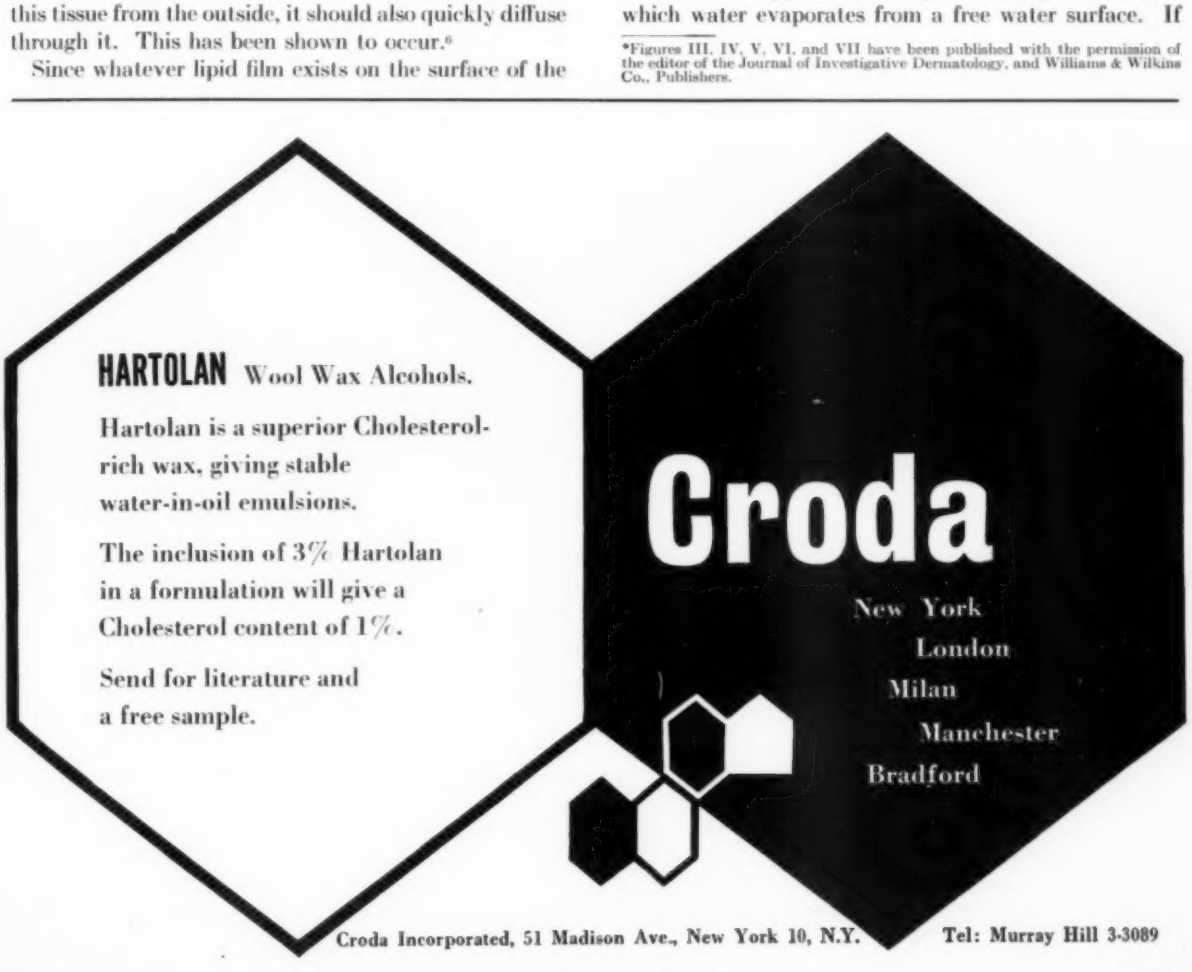
If an inflexible cornified epithelium results from loss of water, let us inquire under what circumstances this might happen for the intact living skin. The stratum corneum can receive water by diffusion from the intercellular fluids of the lower layers of the epidermis. It loses water by evaporation to the environment. The amount of water it contains will always be the resultant of the rate at which water is received and the rate at which it is lost. If the major barrier against water loss were an oil film on the surface of the skin, then water would probably be received by the stratum corneum at a faster rate than it would be lost to the environment and the stratum corneum would neither dry out nor get brittle. Attempts to demonstrate a layer of oil on the cutaneous surface which can prevent water loss have failed. The rate of water loss through the skin is not increased by the removal of the surface oil film with various lipid solvents.[1-5]

The lack of a barrier to water on the surface is also apparent when one observes the rapid rate at which the stratum corneum on the finger tips gets hydrated and swollen when the hands are held in water. This observation also indicates that the major portion of the stratum corneum is not a good barrier against the loss of water by diffusion. If water can quickly pass into this tissue from the outside, it should also quickly diffuse through it. This has been shown to occur.[6]

Since whatever lipid film exists on the surface of the skin does not serve as an efficient barrier for water and since the upper portion of the stratum corneum does not prevent water loss, the major barrier must be at the base of the stratum corneum or lower in the skin. If the rate of water loss through the skin by diffusion is measured and subsequently the stratum corneum is removed in successive layers by stripping with adhesive plaster, no great change is apparent in the rate of water loss until the base of the stratum corneum is reached. Then there is an abrupt increase in the rate at which water can diffuse through the skin.[6] Figure III* shows the rate of water loss following various numbers of strippings. Figures IV, V, and VI show the changes in the histology of the skin subsequent to various numbers of strippings, and it is apparent by comparing these figures that the sharp break in the curve (Figure III) appears when the base of the stratum corneum is reached. This barrier then determines the rate at which water can reach the stratum corneum by diffusion from the underlying tissues. Temperature will have some effect on the rate at which water passes through this barrier.

We wish to compare the rates at which water reaches the stratum corneum from the underlying tissues with the rates at which it can be evaporated from the surface under various environmental conditions. These latter rates can be approximated by measuring the rates at which water evaporates from a free water surface. If

*Figures III, IV, V, VI, and VII have been published with the permission of the editor of the Journal of Investigative Dermatology, and Williams & Wilkins Co., Publishers.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these rates are compared to the rates at which water is lost by diffusion through a piece of excised skin, the rates from the water surface are found to be many times greater than the rates from the cutaneous surface (Table I).[5] This indicates that the low rates observed for water loss from the cutaneous surface are the result

Table I**

The rate of water loss (mg/cm²/hr) from water and whole skin at various temperatures, relative humidities and air conditions.

Temperature °C	Relative Humidity (per cent)	Air Condition	Water Loss From Water	Whole Skin
23	57	Still	15.0	0.10-0.20
35	57	Still	27.5	0.40-0.80
23	88	Still	5.3	0.07-0.10
23	23	Still	21.8	0.13-0.27
23	25-35	Still	24.2	0.20-0.25
23	25-35	Flowing	241.4	0.25-0.50

of the limited amounts of water which can reach the stratum corneum to be evaporated from the surface. The barrier, not the environmental conditions, is the limiting factor in determining the actual amount of water lost from the surface.

Since even at low temperatures and high relative humidities much more water could be evaporated from the surface than reaches the surface from the underlying tissues, the stratum corneum might be expected to be dry and brittle at all times. Indeed this might be true if the cornified epithelium did not have the property of being hydrophilic. It will not lose all its water to the environment except at zero per cent relative humidity. The amount of water which the cornified epithelium will hold is a function of the relative humidity of the environment[5] as is seen in Figure VII. Thus the stratum corneum can attract water from environments of high relative humidity as well as receive water by diffusion from underlying tissues. At the low relative humidities of our heated houses during winter months the stratum corneum gets quite dry. At this low moisture content, it loses its flexibility and this is one of the first manifestations of a dry skin.

As the stratum corneum becomes less flexible and as the skin is flexed, the top lamellae are likely to break. The broken lamellae protrude above the surface and tend to make it rough and scaly. If there is a film of natural lipids on the cutaneous surface this may tend to counteract the roughness both by presenting a smooth surface itself and by tending to act as a cement-like substance to prevent the broken lamellae from protruding above the surface. Also, the intercellular fluids which dry out during keratinization may serve as a type of cementing substance. One way whereby frequent contact with solutions of soaps and detergents may contribute to a dry skin is by removing these cement-like substances. As has been indicated above, however, this removal of cement-like substance is probably not the major factor in the development of dry skin.

Once the stratum corneum breaks because of its inflexibility, and the continuity of the barrier is broken,

**Details of the method used for obtaining the data in this table can be found in reference (5).

various chemicals can reach the living cells of the epidermis and the capillaries, causing vasodilatation, inflammation, and increased cellular proliferation with the accompanying increased and incomplete keratinization and deep fissures. These are the characteristics of more severe dryness and chapping.

Relief and Prevention of Dryness

If dry skin is to be prevented, the stratum corneum must not be allowed to lose too much water. It is unlikely that we would want to attempt to increase the rate at which the stratum corneum can receive water from the underlying tissues because this would mean decreasing the efficiency of the barrier and this would also allow substances to pass into the skin more easily. Therefore we must attempt to decrease the rate at which water is lost to the environment or to increase the water-holding capacity of the stratum corneum.

The majority of cosmetic creams today are emulsions of oil and water. After they have been applied to the skin, some of the water may go into the stratum corneum, but most of the water evaporates, regardless of whether the water was originally present as the external or internal phase of the emulsion. A residual film of oil remains on the skin. The ability of this film to prevent dry skin will depend upon how efficient it is in preventing the evaporation of water from the surface of the skin. As it prevents evaporation from the surface, water will accumulate in the stratum corneum and dryness will be prevented (Figure VIII). The more

Fig. VIII. Schematic representation of the retention of water of diffusion by the stratum corneum of an area of skin covered with a film of occlusive oil.

occlusive the residual oil film, the better it will function to prevent dryness. If the initial stage of mild dryness can be prevented, it is unlikely that more severe dryness and chapping can occur.

If mild dryness has occurred, a thin, continuous film of relatively occlusive oil will relieve the symptoms and possibly prevent more severe drying. Such a film probably acts in several ways. First, it covers the protruding scales and perhaps cements them back into place, thus making the external surface smoother, by mechanical means. When this happens, not only does the surface of the skin become smoother, but there is presented to the environment the surface of the oil, not the surface of the skin itself, and this oily layer is characteristically smooth. Secondly, and more importantly, this layer of oil, if it is relatively occlusive, will cause retention of water by the cornified epithelium. This second type of action will render the scales on the surface of the skin,

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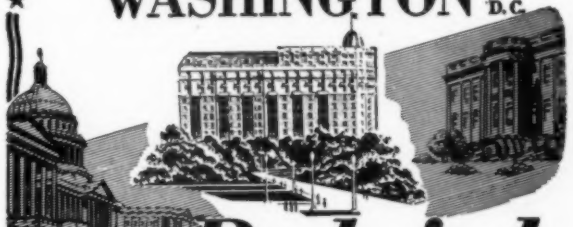

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as well as the entire stratum corneum, more flexible, so that the surface will not seem so rough. As the stratum corneum becomes more flexible, while becoming more moist, further scaling and cracking will be prevented. Thirdly, if superficial breaks in the stratum corneum have already occurred, a film of non-irritating oil will prevent the passage of irritating chemicals into the deeper layers of the skin. This is very important in preventing the more severe dryness and chapping or in stopping the cycle and relieving dryness if chapping has already occurred. It is apparent that the mechanism is a surface phenomenon. Penetration of the oils is not necessary for the prevention or relief of dryness by this mechanism.

Those agents which serve best to prevent or relieve dryness by this mechanism are the ones termed emollients in the pharmacological literature—the vegetable and animal fats, the hydrocarbons, and the waxes. In this category, it cannot be shown that lanolin is necessarily a superior agent for the relief of dryness, even though it is a compound similar chemically to the natural oils of the skin. It is less occlusive so far as water is concerned than are some of the other agents in this group.

The residual films from most vanishing creams and hand lotions are probably even less occlusive than is a lanolin film. It is likely, therefore, that they relieve dryness by some mechanism other than by forming an occlusive oil film. The film from a hand lotion or vanishing cream may be primarily glycerin or a similar hydrophilic material. It may be a dispersion of stearic acid crystals or a salt of stearic acid in a substance like glycerin. Such films would be thin because of the high water content of the original materials; they could easily be removed with water. They are neither very occlusive nor protective. They function to relieve dryness by causing a smoother surface, in the same way that a more occlusive film smoothes the scales, and possibly by aiding the stratum corneum in holding water. If equal weights of anhydrous glycerin and dry cornified epithelium are allowed to come to equilibrium in an environment of any relative humidity, the glycerin will hold more water than the cornified epithelium. A film of glycerin therefore, will aid the skin in attracting water from the environment. In environments of rather low relative humidities, a sheet of cornified epithelium covered with a film of glycerin seems to be more flexible than a similar sheet not covered with glycerin.

Those agents listed by pharmacologists as demulcents are the ones which may relieve dryness by this mechanism. They include glycerin, sorbitol, propylene glycol, polyethylene glycols, and various gums. They probably act to relieve dryness by mechanisms more complex than the simple protective action mentioned in the pharmacological literature.

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PROPRIETARY ASSOCIATION MEETING

(Continued from page 765)

tion, and he also attempts to afford the consumer every protection that it is humanly possible to provide."

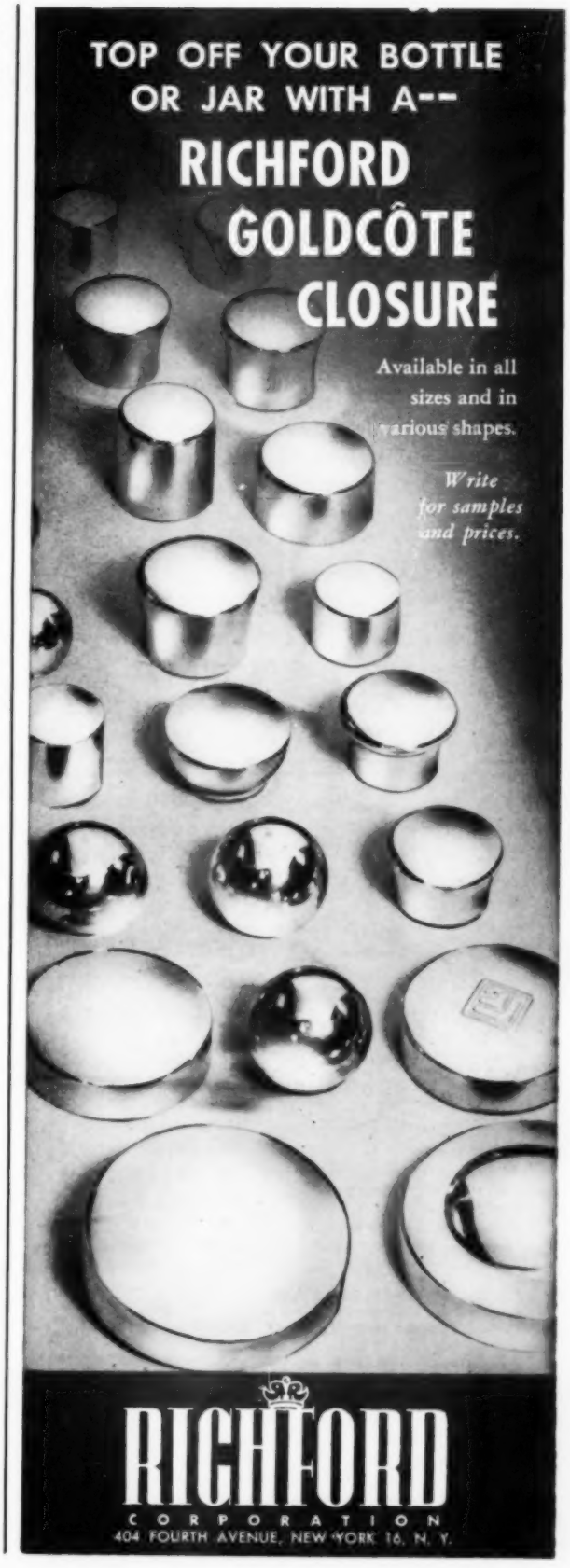
James F. Hoge, general counsel of the Association, pointed out that the restrictive sales controversy was being fought over the name, "patent and proprietary medicines." Said Mr. Hoge:

"Publicly and privately we have been asked to cooperate in resolving this controversy, presumably by some definition of the name 'patent and proprietary medicines,' or by some agreed limitation. For years inquiries have come as to our willingness to work for a solution. Always there have been assurances of our willingness and efforts through committees to achieve a solution. But alas, when we come actually to the formulation of definitions, we discover that definitions are not really welcome; that, on the contrary, the advocates of restrictive sales think—and so say publicly—that they can the better accomplish their purposes without definitions. In fact, an editorial in the American Pharmaceutical Journal stated that there should not be any and that, moreover, there should be a monopoly in the sale of all products of a medicinal character. So, on such high authority, the name 'monopoly' is the thing. . . .

"Definitions have been formulated in an attempt to clarify the situation only to be criticized; never to receive suggestions for revision. Instead, we recently discover that those who over the years have spoken most frequently, and perhaps most loudly, on the need for clarification and on the desire for it are the first ones to announce that they will be parties to no clarification short of monopoly. . . .

"Today the controversy is whether the word 'proprietary' reflects ownership; whether the exemption exists only for a secret composition; whether the article appears in the ever-changing United States Pharmacopoeia or National Formulary. The legislatures were not interested in those questions. They could not foresee continuing revisions of the U. S. P. and the National Formulary. They were interested in whether or not there was need for professional intervention in the dispensing of drugs. The so-called patent or proprietary medicines required and received no professional intervention. It was consequently convenient terminology which accounted for the use of the words proprietary and patent in the exemption statutes.

"In the years since, the word proprietary has been used in connection with a different and rapidly increasing category of drugs, but articles given the name 'patent or proprietary medicines' still exist and all who



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so desire can know what they are and what the continuing legislative intent with respect to them is.

"Increasingly over the years has developed the production of so-called 'ethical proprietaries' or 'pharmaceutical specialties.' They are far more numerous than the old time 'patent or proprietary medicines.' Less and less has the pharmacist become a compounder of drugs. With the development of 'ethical proprietaries' he has become more and more concerned with dispensing and label changing.

"It has not even been contended that the pharmaceutical specialties labeled for safe lay use should enjoy the exemption and yet, under the Durham-Humphrey Act, drugs are divided into two classes: those which must be limited to sale on prescription, and those which, labeled with full information as to use, may be safely sold over the counter. And, you know, it was the druggists themselves who proposed and fought for the enactment of the Durham-Humphrey Amendment to the Food, Drug, and Cosmetic Act which puts drugs in these two classifications—the one classification clearly limited to sale in a drug store on a prescription and the other classification unlimited as to place of sale except by construction of pharmacy acts."

Mr. Hoge concluded that, "The controversy can be resolved. It wants and waits upon nothing but the will to resolve it. If the name 'proprietary and patent medicines' will not or cannot be accepted as conveying the meaning of the legislatures to exempt items to which that name is commonly applied today as it has been for generations, then let us get another name. Perhaps we should have no name but define the class of merchandise without naming it."

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(Continued on page 864)

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(*Continued from page 862*)

"As regards our relations with the public, I have been much interested in the proposed warning statement on labels identifying products containing aspirin. It is, of course, known to all of you who are fathers—as well as to your wives—that infants and very young children have the habit of putting into their mouths anything they can grasp with their tiny hands. This applies to buttons, string, coins, shoe polish and a host of other loose household things—in addition to medicinal preparations that may be so potent that they cannot be obtained except on a doctor's prescription, or so safe under ordinary usage that the Durham-Humphrey Act requires that they carry adequate directions for use, but not an Rx legend.

"In other words, the problem of protecting the child against his curious habits goes far beyond medicinal preparations, whether or not they happen to contain aspirin. The problem is one of educating mothers and fathers—for children cannot read—to keep away from their dear little ones anything and everything that they can stuff into their mouths and swallow. It is our problem, this job of educating, to the extent that we manufacture products that are, in form, either liquid or small tablets. Others share that responsibility with us—pediatricians and nurses, parent groups and public agencies and the media of communications, among others."

James O. Peckham, executive vice-president of A. C. Nielsen Company, presented a paper on present day distribution of proprietary drug preparations, raising four questions at the start of his address, after giving many statistics, he answered them as follows:

Question 1. Does the sale of packaged proprietary remedies, other than through drug and proprietary stores, add to the total usage of these products by the consumer?

Answer to Question 1. The answer to this question is yes. Evidence available thus far indicates that total usage of packaged proprietary medicines has been increased, probably through more display and greater shopper convenience in purchasing these products.

Question 2. Under today's conditions, what type of outlet is most favored by the consumer in his purchase of packaged proprietary remedies?

Answer to Question 2. On the basis of over-all sales volume of packaged proprietary remedies, the drug store is favored by approximately two to one; on the basis of individual store sales, the chain drug to chain food ratio is nine to one, while the ratio of large independent drug to large independent food is 14 to one.

Question 3. Has the druggist made the most of his opportunities in the sale of packaged proprietary remedies; what can he do to improve his position?

Answer to Question 3. While the druggist has done a good job in practically holding his sales volume on packaged proprietary remedies in the face of such factors as expanding food store sales of these products and strong increases in the sales of prescriptions and

professionally promoted items, further progress can be made by featuring, prominently displaying, and pushing fast-moving, nationally advertised brands, with particular emphasis on

—wider selection of brands
—availability and economy of large sizes
—professional advice.

Question 4. How can the manufacturer of packaged proprietary remedies aid the druggist in increasing his sales of these products?

Answer to Question 4. The manufacturer of packaged proprietary remedies can help the druggist increase his sales by

—featuring the large economy size in his display material and in his advertising
—featuring the slogan "ask your druggist"
—gearing promotions to conditions where two-thirds of the business exists—in the retail drug and proprietary store.

Bradshaw Mintener, Assistant Secretary, Department of Health, Education Welfare, said that the Food and Drug Administration's first consideration in enforcement of the Food, Drug, and Cosmetic Act is violations which might cause injury to consumers. Second in order of importance is sanitary violations including violations which may not be dangerous to the health of consumers but which are offensive against common decency. And the third in order of importance is economic violations, or violations which cheat or swindle a buyer in any way, particularly in ways which cannot be detected by a reasonably alert buyer.

Mr. Mintener said that while priority is given to violations of the law in the manner outlined, there is an inevitable overlapping of these three fields of violation. For example, a sanitary violation might be a health violation; an economic violation, such as the substitution of an inferior or worthless ingredient in a food or drug, might also be a health violation. An inspector who is working on a suspected health violation will not overlook what he may find in the way of a filth violation or a serious economic violation. At times, the same product may violate the law in all three respects.

Stanley I. Clark, vice-president of Sterling Drug, was reelected president of the Association for the coming year. The three vice-presidents were also elected: R. B. Brown, Bristol-Myers Company; H. H. Hoyt, Carter Products; and William F. Laporte, Whitehall Pharmacal Company.

James Hill Jr., Sterling Drug, was elected honorary vice-president for a three year term.

Dr. J. Mark Hiebert, executive vice-president of Sterling Drug, was elected to the executive committee for two years to complete the term of Mr. Hill. Reelected to the executive committee for three terms were: James B. Brawn, F. Jackson Andrews, James H. Grove, and George H. Hyde. Newly elected was Dewey S. Mims.

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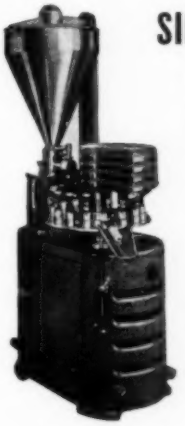

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SURFACTANT PROPERTIES

(Continued from page 761)

These agents (the wetting agents with poor detergent properties) find their greatest usefulness in applications where it is desired to keep water in a continuous film rather than to have it coalesce into droplets. They are often added to windshield cleaners, for example so that visibility is not impaired by droplet formation. They are good at times in cosmetic applications, such as pads saturated with a solution, to allow easy wetting of the pads.

The detergents already described as having the hydrophile and hydrophobe at opposite sides of the molecules usually have enough of a wetting action to enable them to wet the soil to be removed, with some agitation. In any detergent system a suspension of the soil in the water must be formed to free it from the substances being cleaned. We are now approaching a system that to a certain extent resembles an emulsion and therefore the configuration of the molecules with the hydrophile and lipophile at opposite ends is required. Almost all detergent materials have this configuration and other functions are introduced by the nature of the hydrophopic group. The best foamers are represented by the twelve carbon atom lipophile in both soaps and synthetic detergents such as sodium lauryl sulfate. Their efficiency as detergents is dependent on the temperature at which they are used and on the nature of the soil. The synthetic detergents owe their popularity to the ease with which they may be used in hard water in conjunction with a polyphosphate, but from purely theoretical considerations, they conform to the same pattern of behavior as do the soaps.

Emulsifying agents are substances which are more specific in their activity, though they too must have properties which may be considered as wetting and detersive. An emulsion is characterized by a colloidal dispersion of the oil phase in the water phase and is usually intended to be a permanent suspension. The agencies used in the promotion of these systems are somewhat more hydrophobic than are either the wetting agents or the detergents. Soaps of stearic acid for example seem to be better emulsifying agents than soaps of lauric acid and these general considerations seem to hold true throughout the whole range of the synthetic emulsifiers. For example, sodium lauryl sulfate does not perform as well as a detergent as does sodium stearyl sulfate or sodium cetyl sulfate and the same analogy may be applied to the catonic emulsifiers.

The emulsion system is not a simple mechanism and in oil in water emulsions, at any rate, there have been a great many changes in ideas during the past ten years. Studies of the interfacial film indicate that in order to obtain stability in these systems the droplets of the dispersed phase must be surrounded by interfacial film sufficiently strong to withstand breaking in the frequent collisions which occur between globules and thus pre-

vent coalescence. The most modern theories have therefore advanced the idea of the introduction of an emulsifier which is a water-in-oil emulsifier to work in conjunction with the oil in water agent. Substances such as glyceryl monostearate are now being used to fulfil this function.

The nonionic emulsifiers conform to much the same theoretical considerations already discussed. However since the hydrophile here is relatively weak as compared to the ionic types of hydrophiles, the nonionic hydrophile—which is usually a chain of ethylene oxide molecules hooked together as ethers—must of necessity be larger. The hydrophile—lipophile ratio in these nonionic emulsifiers is therefore somewhat heavier in the hydrophile groupings. Here again the same general considerations prevail. As the hydrophile increases in relation to the lipophile, the agents change from water-in-oil to oil-in-water emulsifiers.

This is analogous to the behavior of the beeswax-borax system used in solid creams. Cold creams may be made as water-in-oil or oil-in-water emulsions. The sodium cerotate formed as a result of the reaction between free cerotic acid in beeswax and borax seems to be borderline in water-in-oil—oil-in-water promotion. If sufficiently large amounts of water are used oil-in-water emulsions occur and if the water phase is reduced a water-in-oil cream results. Soaps of lower molecular weight, stearic acid for example, invariably produce oil-in-water emulsions.

The advantage of the nonionic groupings is the ease with which specific agents may be prepared to do specific jobs and they have become quite popular in spite of the fact that the ionic types of emulsifiers are easier to use in formulations because of their more positive action.

ALLANTOIN IN COSMETICS

(Continued from page 769)

ulcers[5,11,18,19] wounds and suppurating burns[5,19] infected areas of the mouth[5,23] eye, ear, nose, and throat[12,17,22] etc.

Of more dermatological nature, such conditions as severe sunburn[12,20] carbuncles, fissures, impetigo[12] and eczema[10] have also yielded to allantoin therapy. Lesser[12] states that "Allantoin also aids in the formation of new skin after infection or injury." These accounts clearly indicate that allantoin is not only an effective healing agent, it is also soothing, and most important, it is nontoxic, safe and harmless.[12,19,20]

In September of 1954, LeVan, Sternberg, and Newcomer[12a] reported on a cosmetically acceptable lotion containing a silicone protectant, a keratolytic (allantoin), a bactericidal agent and antipuritic substances. They stated that "The inclusion of a substance that would favorably affect the keratin layer of skin, promoting healing by epidermal stimulation and debridement of necrotized superficial keratin, should be a valuable adjunct in topical therapy of the kind of dermatitis under discussion. Such a substance is thought

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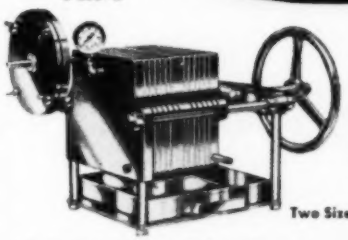

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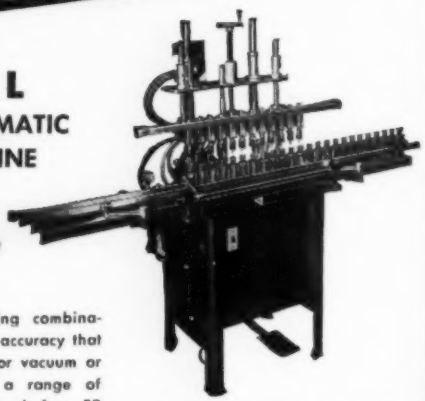

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to be present in glyoxyl diureide, a uric acid derivative." The clinical tests reported in this paper proved that "Subacute and chronic housewives' eczema and contact dermatitis of the hands, uncomplicated 'diaper rash,' periaural dermatitis due to excessive moisture, and certain hyper-keratotic dematoses responded satisfactorily to the use of the lotion." Important enough to mention is that 26 of 38 patients with contact dermatitis experienced satisfactory improvement despite continued exposure when they kept at their work while using the lotion.

Recent communications from practicing physicians who prescribed allantoin lotion (0.2 per cent) to treat rough, dry skin, callouses and hardened finger tips, report that this lotion softened the skin, and a smooth, clean healthy appearance was noted. Such treatment removed irritation and cleared up dryness and roughness. One report included the application of allantoin lotion on post-surgical scar tissues resulting in a return to normal appearance within a very short time.

Since its introduction over 40 years ago, allantoin has been employed in a great number of cases requiring its cell-proliferating and tissue building action. Thus far, we have found no reports in literature of any cases of toxicity, irritation or allergic reaction following the use of allantoin even over extended periods. It is of importance to note that those who have worked with allantoin found it to be non-toxic, harmless, bland and free of allergic reactions even after constant use.[11-12-14-19] Robinson[20] states that in the four years that this chemical was in use under his supervision, no harmful effect was noted. It has been the writer's personal observation that workers who were in close contact with allantoin during its manufacture, handling it in full strength daily, suffered no allergic or irritating reactions even over periods of ten to sixteen years.

The action of allantoin has been loosely compared by some writers with that of urea. However, the comparison does an injustice to allantoin, since evidence at hand now would appear to challenge seriously the reputed efficacy of urea. For instance, Brush and Lam[3] of the Henry Ford Hospital—in their experimental work on cutaneous wounds in guinea pigs—found the action of urea "definitely inhibitory" to wound healing. Other investigators have raised different objections: as for example, Holmes[6] who states that urea must be used in concentrated solutions, which "may cause discomfort," so that "sedation is often necessary." Another disadvantage is that urea has a tendency to "dry-out" and "cake" on occasion, which presents an obvious difficulty in maintaining close contact of this agent with the injured tissues. Fortunately allantoin has none of these drawbacks.[8-10]

Allantoin is decomposed into urea and finally into ammonia by the enzymes allantoinase and allantoicase. However, this does not occur when applied to the human tissues. As Robinson[20a] points out, "While allantoin can be decomposed chemically to form ammonia, it is known that this does not happen in human tissues, because the enzymes (allantoinase and allan-

toicase), necessary to do it, are absent. Allantoin is derived in nature from the decomposition of the cell nucleus, and it is of purine origin." Therefore allantoin does not derive its effectiveness as a result of its breakdown into urea.

Allantoin may be applied in solution as a wet dressing or irrigation,[2] as well as in ointments,[4-9] jellies[13-17] or even in powder[12] form, either alone or in combination with other therapeutic agents. It exerts its full activity whether in complete solution; in suspensions using oils, waxes and so forth, or in a dry form.[4-8-12]

The addition of allantoin in a proportion of 0.05 per cent to 0.5 per cent in various cosmetic preparations such as skin creams, lotions, lipsticks, and shaving preparations would enhance their healing properties considerably.

The following formulations were developed by Dr. A. B. Pacini of the Trudal Laboratories. Conventional cosmetic formulas have been modified to include allantoin. These formulas are merely intended as suggestions, that will indicate to the individual formulator how allantoin can be introduced into his particular product.

Hand Lotion with Allantoin

	Percent by weight
Glyceryl Monostearate, self emulsifying	3.5
Mineral Oil, Light	0.5
Butyl para hydroxy benzoate	0.2
Water	93.6
Propylene glycol	2.0
ALLANTOIN	0.2
Perfume and color q. s.	

Melt the monostearate with the oil and preservative. Dissolve the allantoin in the water heated to 75° C. together with the glycol. Bring both phases to 75° C., mix and stir until the lotion has reached room temperature.

Note: Other preservatives such as methyl and propyl para hydroxy-benzoate can be used.

By adding menthol and benzocain, this lotion could be used as an effective sunburn preparation.

Night Cream with Allantoin

	Percent by weight
Paraffin, white, 135° F.	3.0
Micro crystalline wax 170°	2.0
White Beeswax	5.0
Spermaceti	4.0
Anhydrous Lanolin	2.0
Sesame Oil	30.0
Light mineral oil	30.8
Oleic acid, white	1.0
Water	19.9
ALLANTOIN	0.2
Butyl para-hydroxy benzoate	0.2
Triethanolamine	1.5
Perfume	0.4

Melt the glyceryl monostearate, spermaceti and mineral oil together, bring the temperature to 75° C. Dissolve the allantoin in the glycerin and water, bring to 75° C., and mix the two phases stirring until cool enough to take perfume, then cool to room temperature.

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Hand Cream with Allantoin

	Percent by weight
Glyceryl monostearate, self emulsifying	12.0
Spermaceti	6.0
Light mineral oil	1.0
Butyl para hydroxy benzoate	0.2
Water	68.1
Glycerin	12.1
ALLANTOIN	0.2
Perfume	0.4

Note: Combination of methyl, ethyl, and butyl, para hydroxybenzoate may be used as preservative.

With certain modifications such as the addition of menthol and benzocain, this cream can be used as a sunburn preparation.

Sun Tan Lotion with Allantoin

	Percent by weight
Glyceryl monostearate	3.5
Light mineral oil	0.5
Butyl para hydroxy benzoate	0.2
Sunscreen agent	2.5
Water	92.9
Sodium Lauryl Sulfate	0.2
ALLANTOIN	0.2
Perfume and color q. s.	

Melt glceryl monostearate and mineral oil, add preservative. Dissolve sodium lauryl sulfate and allantoin in water, mix the two phases at 75° C., and stir till room temperature is reached.

Note: The percentage of sun screen agent varies according to the type used.

By increasing the proportion of glyceryl monostearate to about 12 per cent, a suntan cream can be made.

Antiperspirant Cream with Allantoin

	Percent by weight
Glyceryl monostearate	16.0
Spermaceti	3.0
Titanium oxide	1.0
Water	52.9
Aluminum Sulfate, N.F.	25.0
ALLANTOIN	0.2
Sodium Lauryl Sulfate	1.5
Perfume	0.4

Dissolve the aluminum sulfate and the allantoin in about one half the water. In the rest of the water, dissolve the sodium lauryl sulfate and pour into this the glyceryl monostearate and spermaceti, previously melted together. Continuing the stirring, slowly add the aluminum sulfate-allantoin solution, until it has all been incorporated. The titanium oxide powder is dusted in small portions. The temperature should be kept as low as possible (45° C.) consistent with fluidity. Perfume is finally added and the cream poured.

Note: Other antiperspirant agents can be substituted for the aluminum sulfare i.e. chlorhydrol, etc.

By reducing the proportion of glyceryl monostearate and spermaceti this cream can be converted to a sprayable deodorant lotion.

After Shave Lotion with Allantoin

	Percent by weight
Water, by volume	37.25
Alcohol, by volume (SD 39C or 40)	60.00
Propylene glycol, by weight	2.00
Hexachlorophene, by weight	0.25
ALLANTOIN, by weight	0.20
Perfume	0.30
Color q. s.	

Dissolve the hexachlorophene and perfume in the alcohol, color if desired. Dissolve the allantoin in the water and propylene glycol, add this solution slowly to the alcohol solution. Store for one or two weeks, then filter.

Lipstick with Allantoin

	Percent by weight
White Beeswax	13.0
Micro crystalline wax (170° F.)	4.0
Anhydrous Lanolin	5.0
Carnauba Wax #1	3.0
Castor Oil, odorless, tasteless	56.0
Butyl Stearate	2.0
Mineral Oil, light	4.0
Bromo fluorescic acid	2.0
Lake colors and white pigment	10.0
ALLANTOIN (200 mesh)	0.05
Perfume	0.95

Wet the Bromo acid with butyl stearate, then finely grind in the mineral oil and one half the castor oil, slowly adding the pigments and the allantoin.

Add this ground pulp to the melted waxes, mix thoroughly, and add perfume before pouring into molds.

Lip Pomade with Allantoin

	Percent by weight
Spermaceti	7.0
White Petrolatum	40.0
Glyceryl monostearate	26.0
Light mineral oil	26.4
ALLANTOIN	0.1
Perfume	0.4
Preservative	0.1

Melt the glyceryl monostearate, spermaceti and the petrolatum. Add the mineral oil and preservative. Then slowly sift in allantoin, 200 mesh size, stirring thoroughly. Add perfume before pouring, the glyceryl monostearate furnishes a hydrophilic character to facilitate transfer of the allantoin to the lips from the stick.

Note: Butyl para hydrobenzoate, or propyl, or methyl para hydroxy-benzoate or combinations of these may be used as preservatives.

Allantoin retains its activity in a wide pH range, that is, from four to nine. However, since allantoin is decomposed by such strong alkalies as sodium or potassium hydroxide, it is necessary that such alkalies be neutralized before the allantoin is added to the formulation. Also, allantoin is not an antiseptic and a suitable preservative should be added to the formulation.

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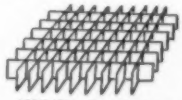

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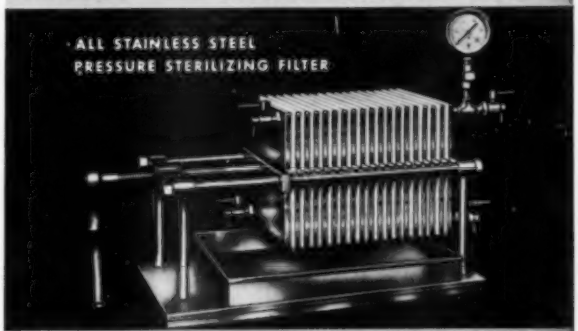

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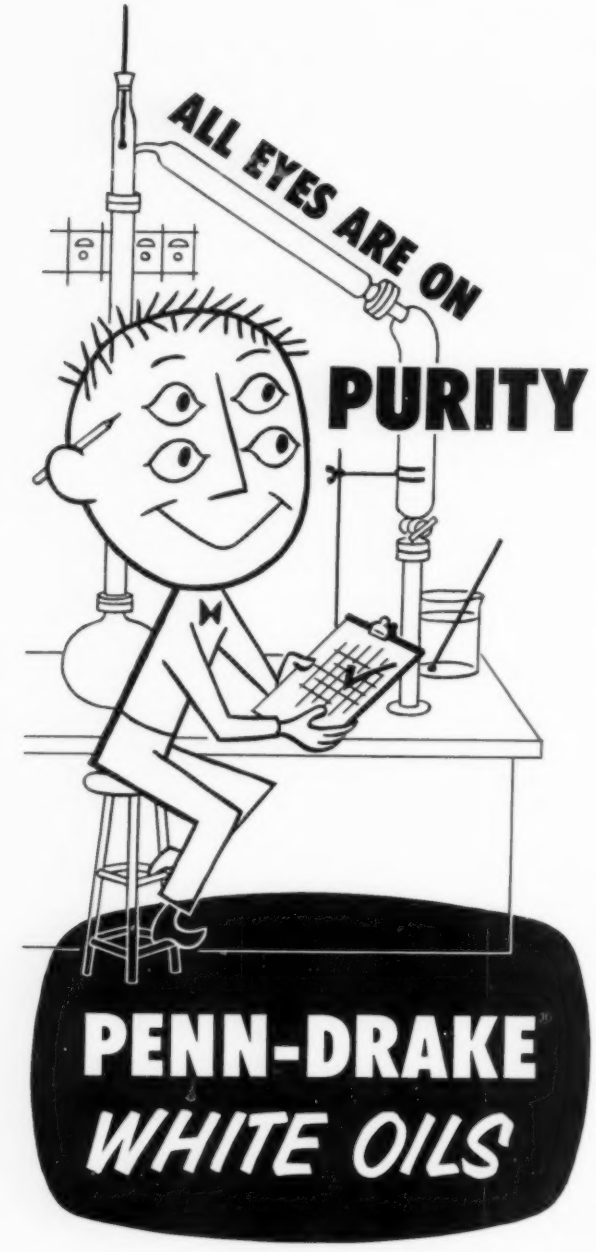

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T.G.A. MEETING

(Continued from page 767)

"What will happen to your demonstrators?" asked Mr. Fatt. "With the main store doing less and less of the total volume of the entire group, with so much of your volume being scattered over so many branches even the least courageous manufacturer will be compelled to eliminate demonstrators. I know that you will be grieved at their demise, but the day of the manufacturer-paid store demonstrator is drawing to an end . . . and not an untimely end. Of course, many of you may still use the traveling demonstrator as a promotional tool, but even these will eventually give way to electronics which will enable you to demonstrate your products through closed circuit three-dimension color life-size units placed in stores."

"The line of demarcation between manufacturers who today sell house-to-house exclusively and who sell through wholesalers and retailers will tend to disappear," said Mr. Fatt. "Today's house-to-house companies will seek to broaden their distribution through retail channels and the traditional retail distributors will woo house-to-house selling."

"The drug store will be with us in 1970," continued Mr. Fatt. "Giant drug chains will continue to grow and expand in numbers and in size, and in the variety

of the merchandise they handle. However the line of demarcation between them and the variety store and the junior department will tend to disappear. Automation will play a larger part in their operations just as in the department store and in the variety store. But as we look into the future *there is no reason to believe that the chain drug store's role in our distribution* picture will change materially.

"The corner druggist will survive as long as there is need for the personal counsel and service he is able to give. The number of independent druggists will probably be smaller in relation to total retail outlets as shopping shifts to suburban centres. But in our projection for 1970 we must not lose sight of the toughness and vitality of the small independent business man whose doom was forecast when chain stores began to grow, but who still forms a mighty powerful force in our distributive system. The new generation of druggists is learning to capitalize on the strength of their individuality. Aided and abetted by far-seeing wholesalers and manufacturers they are learning to streamline their operations. They are and will continue to be an outlet to be reckoned with.

"And now for supermarkets. I predict that every supermarket and many small independent food stores will have health and beauty aid departments in 1970 and that some supermarkets will have very large departments. I believe that their share of the market in items such as tooth pastes, cotton, aspirin, laxatives, shampoos will grow because the number of supermarkets will grow. But I don't believe that in 1970 the supermarket will surpass the drug store, variety store and department store as an outlet for cosmetics, perfumes, toilet accessories and related items as long as the supermarket retains its primary function as a distributor of food."

Mr. Fatt claimed that the discount house is not the threat to the cosmetic manufacturers that it is to other industries. He stated that the discount house is becoming a department store, and the department store is becoming a discount house.

"The supermarket which introduced volume low-cost selling in foods and embraced toiletries as a 'mark-up' bulwark is going the way of all flesh and is gradually pecking away at 'health-and-beauty-aid' prices," he said.

The mass retailer will lose his importance as a molder of public acceptance of brands and products, according to Mr. Fatt, who predicts that "This will be taken over by the manufacturer whose 'bigness' and advertising power will assert itself through the staggering might of new advertising techniques to create demand for specific brands. The dominence of a greater number of powerful brands deeply entrenched in the consumer's consciousness will make for lesser dependence on the whim and will of the retailer. Under such conditions the retailer will be relegated to his rightful place as *purchasing agent* for the consumer and not as a middleman in advertising to the consumer." Thus Mr. Fatt sees an eventual end to cooperative advertising.

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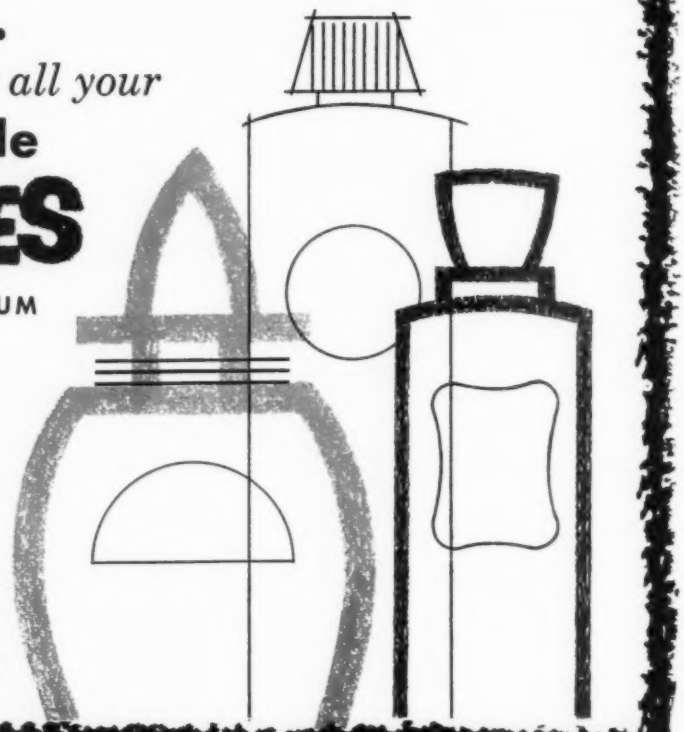

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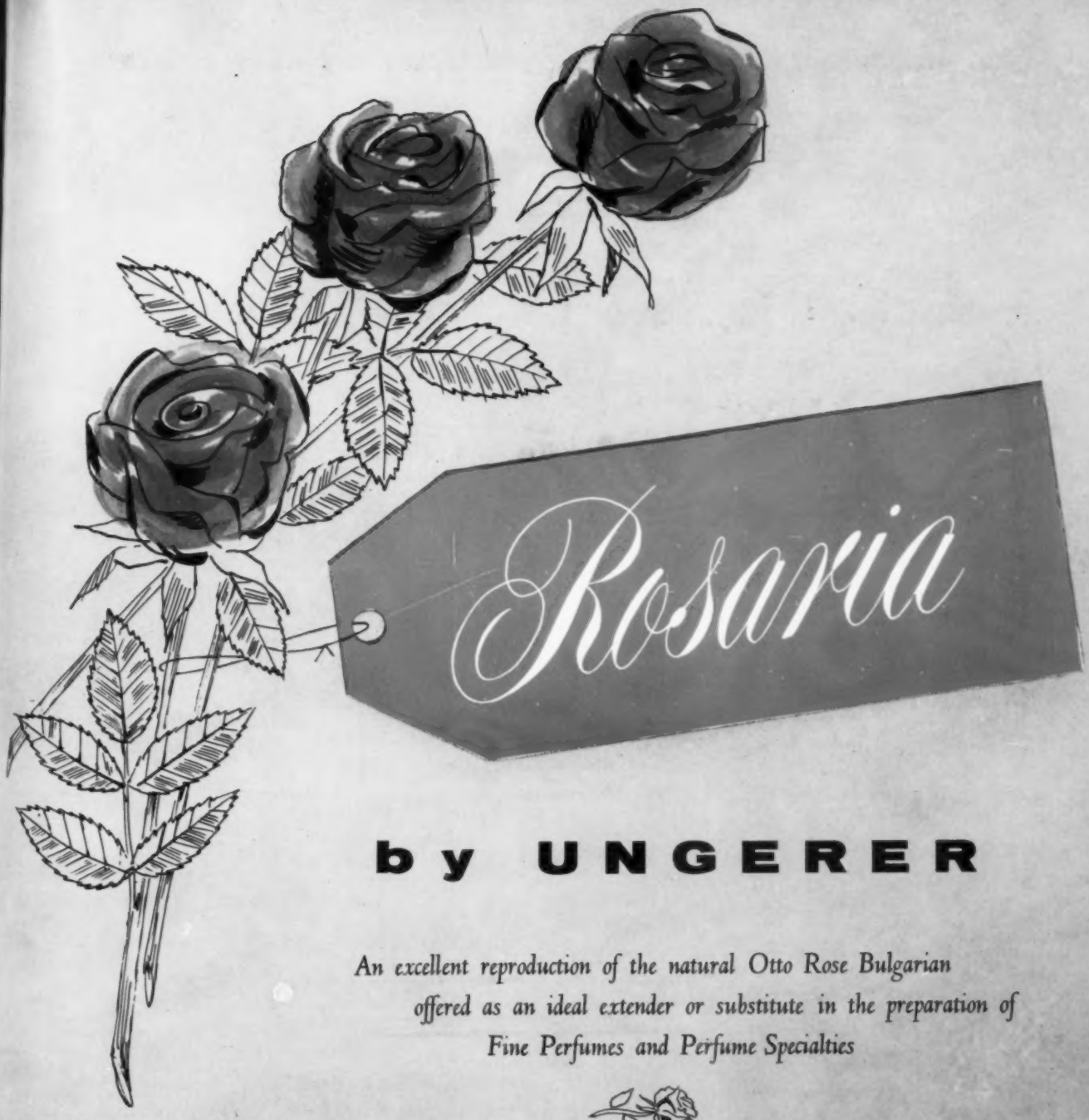
Santonin Company of America, Inc. 860
Schimmel & Co., Inc. 744
Scoville Manufacturing Co. 786
Seaplant Chemical Corp. 858
Sheffield Tube Corp. . . . . Insert facing 788
Shell Chemical Corp. 738
Shellmar-Betner-Continental Can Co. 800
Sindar Corporation. 806
Standard Oil Company (Indiana). 727
Standard Pharmacal Company. 866
Stepan Chemical Company. . . . . Insert bet. 816-817
Sterwin Chemical, Inc. 875
Stokes Machine Co., F. J. 818
Stokes & Smith Company. 824
Strand Cosmetics, Inc. 856
Strong Cobb & Co., Inc. 730
Sun Tube Corp. 776
Synarome Corp. of America. 866
Synfleur Scientific Labs., Inc. . . . . Insert facing 817
Syntomatic Corp. 835

Tamms Industries, Inc. 875
Tombarel Products Corp. 732
Tompkin's Label Service. 875

Ultra Chemical Works. 865
Ungerer & Co., Inc. . . . . Cover 3
Union Carbide & Carbon Corp., Carbide & Carbon Chemicals Div. 815
U. S. Bottlers Machinery Co. 829
U. S. Industrial Chemicals, Inc., Insert bet. 740-741

van-Ameringen-Haebler, Inc. . . . . Insert bet. 732-733, pg. 847
Van Dyk & Company, Inc. 752
Verley & Company, Albert. . . . . Insert bet. 832-833
Verona Chemical Company. 838

Welch, Holme & Clarke, Inc. 855
Whittaker, Clark & Daniels, Inc. 858
Will & Baumer-Candle Co. 864
Witco Chemical Co. 876
Wolf, Jacques & Co. 873



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